RELECTIONS - SIR BEDE CALLAGHAN

A memorial service for former Chancellor, Sir Bede Callaghan, was held during December, at which the Deputy Vice-Chancellor, Professor Michael Carter, spoke on behalf of the University. The following is taken from his address:

“We are especially thankful today that Lady Mollie and other close relatives are able to join us in our remembering of Sir Bede Callaghan, distinguished and beloved former Chancellor of this University, son and friend of the City of Newcastle.

Anyone who knew Sir Bede knew also of his deep love for and pride in his family. We in the University like to think of ourselves, if it is not too presumptuous, as part of his larger family and we miss him very deeply in our own way, whilst joining with Lady Mollie and his near kin in their special sadness. Today it is my privilege and responsibility to speak on behalf of the University family - its staff, past and present, and its students, past and present. I served for more than 10 years on the Council of the University over which Sir Bede presided. I always respected him, came to admire him - and, I hope it is not too much to claim, even acquired something of the status of friend. In these respects, I should say, I was no different from those many people in the University with whom Sir Bede came into contact. Genuinely courteous and kind. He possessed, indeed, all the characteristics of a statesman and brought these qualities to bear to the benefit of the University, in its internal deliberations and in its external relations. Whilst he did not have a University education himself, he had an intuitive understanding of academics, together with a healthy scepticism of the more extravagant argumentation to which academics are sometimes prone.

He was at home in the University because he was imbued with a respect for education and because he recognised the fundamental importance, if the human lot were to be improved and a higher order of living to be achieved, of the disinterested pursuit of knowledge and the exploration of its applications in society.

Anyone who knew Sir Bede is a better person for it. The University of Newcastle is a finer institution because Sir Bede took it to his heart and to his mind. As Chancellor, he presided over significant changes in structures and in persons. He always proclaimed that Newcastle, the sixth city of Australia (and as independent testimony avers, the best one to live in) deserves a university of the first order. He devoted himself to that cause with wisdom and with determination.

Today, as he looks down benevolently upon us - and as we look up to him - our collective tribute is suitably an avowal to do our utmost to ensure that we fulfil those high ideals and lofty aspirations which he held out for the University. To this task and in his memory, with deep affection and profound respect, we together commit ourselves.”

CONVOCATION INAUGURAL LECTURE

On Wednesday, March 23rd in the Purdue Room of the Great Hall at 5.30pm, the Vice-Chancellor, Professor Raoul Mortley, will deliver his Inaugural Lecture, Narcissus and Christ.

Professor Mortley will mark his appointment as Vice-Chancellor with a lecture exploring the philosophy of self-images, and the gap between mirror-images and likenesses.

All interested staff and community members are invited to attend. Refreshments will follow the lecture. Information available from Kim Britton, phone (049) 21 6459.
1994 promises to be a year of consolidation and benefit as the decisions taken in 1993 become practice. For those who may have missed some of the fine detail, the following pages should fill in the gaps.

CHANGES IN ACADEME

There have been some changes in faculty structure and personalities following last year’s review and early voluntary retirement offer. The new arrangements are set out below.

NEW FACULTY SYSTEM AND HEADS
(as at 11/1/94)

FACULTY OF ARCHITECTURE
Dean: Professor J.A. Ramsland
Department of Architecture - Mr. L. Johnston
Department of Design - Mr. L.A. Ginters
Department of Fine Art - Mr. P.W. Singleton

FACULTY OF ART AND DESIGN
Dean: Professor G.J. Gilchrist

FACULTY OF ARTS AND SOCIAL SCIENCE
Dean: Associate Professor J.A. Ramsland
Department of Classics - Professor H.A.S. Turnat (Acting)
Department of Communication & Media Arts - Mr. F.G. Morgan
Department of Drama - Dr. D.M. Watt
Department of English - Assoc. Professor D.H. Craig
Department of History - Professor A.D. Weal (Acting)
Department of Linguistics - Dr. P.G. Pearson
Department of Modern Languages - Assoc. Professor F. Walls
Department of Philosophy - Professor C.A. Hooker
Department of Social Work - Ms. J. Gaha
Department of Sociology and Anthropology - Professor L. Bryson

FACULTY OF ECONOMICS AND COMMERCE
Dean: Dr. W.C. Dunlop
Department of Commerce - Professor F.L. Clarke
Department of Economics - Assoc. Professor A.C. Oakley
Department of Management - Mr. B. Cheek
Department of Statistics - Assoc. Professor R.W. Gibbend

FACULTY OF EDUCATION
Dean: Associate Professor A. Taylor
Department of Curriculum & Teaching Studies - Dr. L.R. Kilten
Department of Education - Assoc. Professor T. Lovat
Department of Special Education - Assoc. Professor P.J. Foreman

FACULTY OF ENGINEERING
Dean: Professor G.C. Goodwin
Department of Chemical Engineering - Professor G.J. Jamieson
Department of Civil Engineering & Surveying - Professor A.W. Page
Department of Computer Science - Professor P.D. Eades
Department of Electrical & Computer Engineering - Assoc. Prof. R.H. Middleton (Acting)
Department of Mechanical Engineering - Mr. J.W. Hayes

FACULTY OF LAW
Dean: Professor N. Rees
Department of Law - Professor N. Rees

FACULTY OF MEDICINE AND HEALTH SCIENCES
Dean: Professor J.D. Hamilton
Discipline of Anatomy - Professor N. Bogduk
Discipline of Behavioural Science in Relation to Medicine - Professor R. Sanson-Fisher
Discipline of Clinical Pharmacology - Professor A.J. Smith
Discipline of Community Medicine & Clinical Epidemiology - Professor R.F. Heller
Discipline of Environmental & Occupational Health - Professor D. Christie
Discipline of General Practice - Professor A.L.A. Reid
Discipline of Human Physiology - Professor S.W. White
Discipline of Medical Biochemistry - Assoc. Professor P. Dunkley
Discipline of Medical Radiation Technology - Mr. T. Buxton
Discipline of Medicine - Assoc. Professor S.J. Carney
Discipline of Nutrition & Dietetics - Professor D. Roberts
Discipline of Occupational Therapy - Ms. S. Lyons
Discipline of Paediatrics - Professor R.L. Henry
Discipline of Pathology - Professor R.L. Clancy
Discipline of Psychiatry - Professor V. Carr
Discipline of Reproductive Medicine - Professor W.A. Walters
Discipline of Surgical Science - Professor J.F. Forbes (Surgical Oncology)

FACULTY OF MUSIC
Dean: Professor M.P. Dudman

FACULTY OF NURSING
Dean: Ms. R. Wamsley (Acting)
Department of Community & Mental Health Nursing - Mr. D. Arthur
Department of Physiological Health Nursing - Ms. R. Wamsley
Department of Professional Nursing Studies - Ms. A.K. Williams

FACULTY OF SCIENCE AND MATHEMATICS
Dean: Professor D.C. Finlay
Department of Applied Science & Technology - Mr. R. Clark
Department of Aviation - Dr. P. Pfister (Acting)
Department of Biological Sciences - Assoc. Professor R.J. Rose
Department of Chemistry - Assoc. Professor G.A. Lawrence
Department of Geography - Assoc. Professor R. Lougiran
Department of Geology - Assoc. Professor P. Scoccimbre
Department of Mathematics - Professor I. Raeburn
Department of Physics - Assoc. Professor D.J. O'Connor
Department of Psychology - Dr. D. Manzo
The University of Newcastle Research Associates (TUNRA Ltd.) was created by resolution of the University Council in 1966. The intent in creating TUNRA was to provide a means whereby the research experience in the University might be offered for consulting purposes to those outside the University who might have a need for that expertise. This would be a fee-for-service operation in which part of the fees were returned to the academic as consultant, part went to the academic’s Department to compensate for any use of services in the consulting and part went to TUNRA as the management company. The aim was also to make some contribution to the University income in order to bolster the research effort in the University.

TUNRA was also to assume the responsibility for the exploitation, where possible, of the intellectual property generated by the researchers in the University. This would involve the marketing of that intellectual property to companies who would develop and commercialise the outcome of the research and return to the University royalties or a share of the profits.

In the period up to the late 80s TUNRA was successful in a relatively small way in generating consultancy opportunities for academic staff, particularly in Engineering and to a lesser extent, in Medicine. Several intellectual property endeavours were negotiated but with limited success in terms of return to the University. TUNRA had built up reserves of about $1M, a lot of which was held on behalf of consultants and their Departments.

In the late 80s and early 90s, TUNRA began to trade at a loss each year and to use up some of its reserves. In 1993 it was realised that this situation could not persist and some steps were taken to review the structure and operation of TUNRA. As a result, it was suggested that TUNRA should move to interact more closely with the University. The Vice-Chancellor should chair the Board of TUNRA but TUNRA should not be incorporated into the University completely so as to retain some of the flexibilities offered by a semi-autonomous operation. The Vice-Chancellor indicated he would prefer the Pro Vice-Chancellor (Research and Information Technology) to chair the Board on his behalf, thereby enhancing the links between the University’s Office for Research and TUNRA as the University’s agent for the exploitation of intellectual property. This move to link the research in the University more closely to those charged with its exploitation was in line with Federal Government emphasis on the exploitation of research in Australian Universities for the benefit of Australia. It also came at a time when the University was developing a formal statement of its policy for the development of intellectual property.

Amongst other recommendations, it was suggested that TUNRA had never been capitalised to pay for the protection of the intellectual property and that this should really be a responsibility of the University. It was also suggested that TUNRA should be structured in such a way that its operating divisions should be stand-alone cost centres responsible for generating the income to support their own activities. TUNRA Corporate would provide management services to the operating divisions and any other consultant on a “break-even” basis, hopefully at a fee which was significantly reduced on the current charges. The idea that all divisions and other consultants should cost their services in such a way that there is a return on income (say 5%) to the University, to be used specifically for the support of research in the University, is currently under discussion.

At present, there are six formal divisions of TUNRA.

TUNRA Bulk Solids is based primarily on the activities of Professor Alan Roberts and associates. This division has a turnover in consulting fees and contracts of about $750,000 per year, mainly in the form of small problem-solving exercises which lead to significant research endeavours. This division consults to companies all over the world and has made a major contribution to industry in Australia. Links generated through the operation of this division have been largely responsible for the establishment of two Chairs in the University.

TUNRA Fine Particles has been established primarily around the activities of Professor Graeme Jameson and associates. This division has conducted a continuing program of basic and applied research into the flotation separation of fine particles, particularly in the mineral processing area. As a result of this work the Jameson Cell has been developed. This represents a significant enhancement of the efficiency of separation of minerals and has been licensed for its development and commercialisation to MIM Ltd. TUNRA receives royalties from the sale of the Jameson Cell both nationally and internationally. The division is currently working on ways to separate fine waste from water and is likely to make significant improvements of environmental importance.

TUNRA Industrial Electronics largely resulted from interests of Professors Rob Evans and Rick Middleton in satellite tracking and the development of control systems for satellite dishes. Professor Evans has now shifted to Melbourne but continues to collaborate with the division.
The division has successfully completed contracts to supply control systems to the Australia Telescope, a project in Geraldton, W.A., and an OTC project in the Cook Islands. Contracts currently on hand include one to upgrade a satellite tracking system in Indonesia (see page 14) and supply of a tracking system for an AWA contract to the Department of Defence.

Newstat is a division developed around the expertise of members of the Department of Statistics. Currently it does statistical consulting in the health area as well as provide consultancy and courses in the area of quality control.

Hunter Occupational Health is a division utilising the expertise of Professor David Christie and his colleagues in the area of occupational health and safety.

The Environmental Management division utilises the members of the Department of Applied Science and Technology with expertise in the management of environmental resources. This group is currently small but it is expected that developments in the University in the area of environmental science will lead to an expansion of its contracting activities.

"It is hoped that members of the University will see TUNRA in a new light ..."

These represent the formal divisions of TUNRA but there is also a lot of consultancy managed for individuals and other groups. It is hoped that members of the University will see TUNRA in a new light in the near future and that more staff members will opt to use TUNRA as the manager for their consulting activities. This will certainly ensure that they are properly protected by professional indemnity insurance as well as relieve them of some responsibilities in respect of reporting on their activities to the Vice-Chancellor. It is my wish to see all the Centres and Institutes in the University offering their consulting activities through TUNRA. This will also be in line with ways in which the University wishes to develop its intellectual property.

TUNRA is also likely to be moving into new fields of endeavour as well. Current Government policy in respect of fee paying courses would suggest that Universities will be under pressure to transfer units which can be related to professional development (rather than the acquisition of knowledge basis to the particular discipline), to fee paying postgraduate courses. This is a situation which will need to be explored but the opportunity exists for TUNRA to offer such courses through contracting to academic departments. If Faculties can be convinced that such offerings are academically acceptable, these courses could be set up to attract credit towards coursework Masters degrees or postgraduate diplomas offered by the University. A start along this direction has already been made with some short courses being offered overseas and with discussions underway in India regarding the possibility of offering a range of such courses for possible credit.

The possibilities above relate to courses allied with the higher profile research activities in the University. So far the possibilities to be explored have occurred mainly in the technology disciplines and to some extent in Medicine and in other health related areas. The University has expertise in other disciplines and it is anticipated that discussions on the way in which their activities could be linked to TUNRA will occur in the near future. It is reasonable to expect that the University is unlikely to have a plethora of groups approved to offer such courses.

There are also expressions of interest in courses which need the expertise and experience of University personnel but which might not be of a level or a length which is likely to attract academic credit. The University's Department of Community Programmes has been active in some of these areas in the past and will expand its activities in the future with a loose link to TUNRA.

TUNRA also offers a management service to various groups. It is currently administering a major grant/contract for Austpac Gold and is negotiating for other contracts with groups related to the University or TUNRA.

There is one other major development which is worthy of mention. The University and TUNRA have recently signed a collaboration agreement with Cortecs through AIMI (the Australian Institute of Mucosal Immunology, formerly AusPharm) which will guarantee support in excess of $1M per year to AIMI. This does not directly involve the support into the University but the University benefits from the fact that AIMI is located adjacent to, and part of the research laboratories of, the Discipline of Immunology and Professor Robert Clancy's group. There is such a synergistic relationship between University personnel and AIMI as an entity that the University receives royalties on the commercialisation of all AIMI work and University intellectual property. Cortecs is about to release one test kit which has been developed by the University/AIMI partnership which could return to the University substantial royalties in the
A STRUCTURAL CHANGE - ACADEMIC SENATE

by Professor Frank Clarke
Deputy President of the Academic Senate

Academic Senate in its present format will meet for the last time on 30 March, 1994.

In contrast with the present Senate membership exceeding 100, the restructured Senate will only have 44 members comprised of: ex-officio members - the Vice-Chancellor, Deputy Vice-Chancellor, the Pro Vice-Chancellors, Assistant Vice-Chancellor, the Deans of the 11 Faculties, University Librarian, Director of Aboriginal Education; and 25 elected members - two elected from each of the Faculties and three elected from the student body; and the Deputy President of the Academic Senate - to be elected by the academic staff in a University-wide poll in respect of nominations drawn from the professoriate.

"Significantly, the impetus for the restructuring of Academic Senate came from Senate members."

Whereas the new Academic Senate generally will have the same legal functions and responsibilities as the current Senate, it is anticipated that the composition and size of its membership will enhance the Senate's capacity to fulfil its policymaking role. Paradoxically, reducing the membership is likely to create a more collegial setting in which the critical academic policies of the University might be determined, than the widely representative and large membership of the current Senate. Changes foreshadowed in the Commonwealth Government's tertiary education policies are likely to require some hard decisions to be made, development of priorities regarding resource allocations, frank and open discussion of the relative performances by the Faculties, close attention to quality issues, analysis and evaluation of proposed new academic initiatives. It is perceived that the smaller and more homogeneous membership of Academic Senate will be better placed to undertake those tasks than the current Senate.

Significantly, the impetus for the restructuring of Academic Senate came from Senate members. Discussion on a new structure commenced three years ago. Primary focus in those discussions was on defining a membership structure which would be the most effective for undertaking the business of Senate. Although the evidence was mainly anecdotal, the weight of opinion in those discussions favoured a reduced membership of proportions much in line with what will be in place from April this year.

It might be argued that the reduced membership will dilute the participatory elements of democracy in the senior academic decision-making forum in the University. It certainly will reduce the number of individuals personally able to participate directly in the Senate's deliberations. But that is a small price to pay, if the collegial characteristics of University decision-making are enhanced. Under the new structure, Deans and elected members of Senate will have a greater responsibility to liaise with staff and students regarding Senate business. It should emerge that Senate business will become a major item for discussion at Departmental Board and Faculty Board meetings. Indeed, staff and students should insist that it is so. Departments, Faculties and student bodies will need to set in place effective communication networks so that discussion of pertinent matters can take place in an informed and timely fashion. How effective the new Senate will be rests, in large measure, on the input and feedback from that networking.

Above: The Purdue Room - ready for a streamlined Senate.
2NUR - PROGRAMMED FOR CHANGE

"There's going to be rather massive changes in terms of the kind of programming we do this year."

This, coming from Grahame Steel, the General Manager of Radio 2NUR-FM, means that the University's radio link with the community will be not only emanating from a different building in 1994 but will be transmitting new formats as well.

"What we're looking for is a new direction for 2NUR," said Grahame. "As times change and as the broadcasting industry changes here in Newcastle and as new needs arise, we want to be able to fulfil them." One of the major areas of change will be the introduction of more spoken word programs such as a Science program to be co-ordinated by Environmental Science student, Hakon Nollison. This will incorporate pieces from the BBC as well as local input from the University's science-based faculties.

Grahame would like to see 2NUR become more involved in the promotion of the University in general. "We want to talk a lot more about this University in a very positive way," he explained. Another new program which will help achieve this will commence in early May. Looking at issues in higher education, it will explore the politics involved in higher education developments, in the delivery of higher education Australia-wide and the ramifications for this University in particular.

Certainly the most innovative and exciting change, in Grahame's eyes, is the introduction of an Arts programme. "It's not about Arts, it is Arts," he enthused. "We've set aside a two hour slab one evening during the week, where people can use the medium of radio as an art form. I'd like to get people involved from Drama obviously and also people doing radio studies, for example. But we could also get new compositions coming from students at the Conservatorium, Engineering students doing a three minute "soundscape", anything that's new and innovative; that really pushes the medium of radio to its limits." Grahame would also like to see the public involve themselves in this novel piece of formatting. "I hope that we don't just attract students of the University to produce a piece for this program. We want to appeal to the general public; we want anyone who wants to come and have a go. It's important too, that people are not bothered by the fact that they have to succeed in this. They don't have to be successful. They just have to try."

A further link with the University has also been created with all Journalism students now required to be involved with 2NUR as part of their course. "In particular they will be contributing to our "Drive" program, "The Good Oil". We want to add much more current affairs to the present format," he outlined. The Faculty of Music is also a target. "We're keen to record and present local performances and local compositions as much as possible; performances by our students, the Hunter Orchestra and any number of our fine local performers."

The changes at 2NUR are timely given their move to the second level of the new Language Centre building in early March. "It's a major event for us. We'll have three studios, two new studio "desks" as well as a fourth area which will be a production studio with 8-track facilities. All of our people are looking forward to it."

THE SIR NINIAN STEPHEN LECTURE

On Thursday, 17 March, 1994, the Hon. Justice Michael McHugh, AC, of the High Court will deliver the 1994 Sir Ninian Stephen Lecture at 4.30 pm in the University Conservatorium Hall, Cnr Auckland and Gibson Streets, Newcastle.

The title of the lecture will be "The Growth of Legislation and Litigation".

An invitation to attend the Lecture is extended to members of staff of
The University of Newcastle.
CONSTRUCTIVE CHANGES
An Interview with Philip Pollard, Senior Architect/Planner

An obvious aspect of the changing face of the University is on the physical level. Eight new buildings are currently under construction on the Callaghan campus with major earthworks being undertaken at Ourimbah. Here's a brief look at what is happening and where...

1. Western entrance to Callaghan campus:
How many can remember the old gates which used to adorn this entrance? After their removal by the Road Traffic Authority, together with the former bus-stop so that a new roundabout could be built, the University was recompensed $83,000 by the RTA to replace the bus shelter and mark the entrance.

The bus shelter will be constructed from old hardwood timbers from the former Hamilton Granary together with cast iron columns from Paddy’s Markets in Sydney. It will be well lit with both natural and artificial light and will have an emergency phone nearby. The Western entrance to the University was designed by Curator of Grounds, Peter Stevens. It will feature a series of sandstone walls marking the entrance. The name “The University of Newcastle” will be carved into the sandstone blocks that make up the walls (similar to the front of The Chancellery). Work is underway and should be finished by the start of first semester.

2. Architecture Studios:
Designed by Sydney architect, James Grose of Grose Bradley, the most remarkable aspect of this building is that it does not have many windows. Light will enter via skylights and metal louvres in the walls. The louvres can be opened during mild weather to give an open-air environment. Due for completion around Easter, this enormous building will allow, for the first time, architecture students from all five years, to have their own workstation on campus.

3. The Language Centre:
Designed by local firm, E.J.E. Architecture, the materials used in the building reflect those used in the nearby Architecture Library and the Shortland Union. Due for completion and occupation by the Easter holiday break, its three storeys will house the Centre for Language Study, the ELICOS Centre, the Media Production Unit of C.A.L.T. and Radio 2NUR-FM.

4. General Purposes Building:
Yes, this is the culprit, the reason why you can’t use the ring road at present. Designed by Suters Architects Snell, it is an extension to the existing Social Sciences Building. The four storeys will contain the Department of Linguistics (including Speech Pathology), and provide tutorial rooms, one 200 seat lecture theatre and another 250 seat theatre. The building makes the most of natural light and ventilation in a welcome departure from the dark internal corridor (residents of the McMullin Building will most appreciate this). Light and air will be introduced via an internal “street” which has been planned to maximise the use of passive solar principles. Once the building is completed, the portable building nearby will be removed and landscaping, including a courtyard, constructed.

5. Chancellery - Stage 2:
A two-storey adjunct to the Chancellery situated on the eastern side of Stage 1, due for completion in September this year. At present, the Chancellery Annex, including a new Council Room, which will be located on the western side of Stage 1, is still on the drawing-board.

“We are now finally catching up on the enormous growth period experienced by the University during the late ’80s and early ’90s.”

6. Koowinda - Child Care Centre:
Koowinda, meaning “a happy place”, is a 40-place child care facility. It was designed by Sydney architect, Kim Kresinini, when she was a partner with Newcastle firm, Suters Architects Snell. The building has been designed to maximise natural light in all playrooms and it differs from most child care centres in that it will house a much higher proportion of children under the age of one.
7. **Advanced Technology Centre:**
Not a new University building as such, but certainly part of the changing face of the campus. Built entirely by Pacific Power for about $14M, the University has use of over 300 square metres of space within it. Using this area are the University's Institutes of Coal Research and of Bulk Materials Handling. The building was completed at the start of the year and is now occupied.

8. **Design Building and Graduate Studios:**
The most dramatic of the buildings under construction, both were designed by Newcastle Architecture graduate, Peter Stutchbury, in association with B.I.E. Architecture. They will house the Faculty of Art and Design and should be completed by the end of March. The buildings were designed in close consultation with the Department of Design who played an active role on the Project Design Committee. While both of the buildings under construction have been designed to maximise passive solar principles, (eg. to shade windows in Summer and to open the building to the sun in Winter) these two are particularly innovative. The end result is well worth a look.

9. **Maintenance/Store/PPE Building:**
A single-storey building designed by University architects, this will house the University’s Central Store, Maintenance and most departments of the PPE (Physical Planning and Estates) Branch. With Maintenance and the Store moving out from under the Auchmuty Library, this area will be available for much-needed library storage. Projected completion date is May, '94.

10. **University (formerly Nesca) House refurbishment:**
Purchased recently by the University, helped by a donation of $750,000 from the NSW Law Society. Some of the Law Society money will be used to establish a Legal Aid Centre and a practical area for the final two years of the Law course. The Faculty of Law will therefore occupy the second floor after refurbishment, whilst the Faculty of Music will relocate their library and early childhood education course to the first floor. It is planned to use the Ground Floor for University exhibitions with the small revolving theatre to be used for lectures and music recitals.

Other building projects in the planning stage include: * Construction of a Common Room for International House * Sports Union Complex.

Philip Pollard, Senior Architect/Planner at the University, is extremely pleased to see the new constructions taking shape. “We are now finally catching up on the enormous growth period experienced by the University during the late '80s and early '90s,” he explained.

DEET funding, coupled with the building recession, has enabled the University to embark on this substantial building program. “We are fortunate at the moment to be in an extremely competitive building environment. As a result, we are getting great value for money with all our constructions,” Philip said. “For example, we are building the Architecture studios for approximately $470 per square metre. That’s about what you’d build a garage for a few years ago.”

Meanwhile, down on the Central Coast...
West Gosford company, Plum Constructions Pty Ltd, was the successful tenderer for the construction of science laboratories and staff offices (“Building Package 1” of Stage 1 of the development) at the Ourimbah campus.

The $4.3M project should be completed by late this year with “Building Package 2”, encompassing a library, tourism and hospitality facilities, a lecture theatre, student services and amenities and also precinct services, scheduled for completion by mid-1995.

Site work for Stage 1 on the 80 hectare site started last October and it is expected that by the year 2005, some 8,000 students will be studying at the Ourimbah Tertiary Education Precinct in University, TAFE and Adult Education courses.
Feature

A WARM CHANGE - PAT HEALION

Sister Pat Healion has joined the Chaplaincy team at the University.

Pat is excited by the prospect of working within an ecumenical and interfaith environment. She is looking forward to working with students and staff as “we minister to each other”. She believes that through the Chaplaincy, people can empower each other to use their gifts and talents in the service of others.

“It’s important to be available to those who find university life cold and impersonal, or who just need someone to listen to them because they are feeling momentarily lonely, to affirm their value as a person,” she said.

Pat was raised in Sydney and became a Maths and Science teacher in 1972. She taught at Hurstville and Sutherland before moving to St. Catherine’s College, Singleton, in 1976.

In 1977, Pat entered the Sisters of Mercy, Singleton, took her first vows in January 1980, and taught at Hamilton until 1984. The next three years were spent converting a Teacher’s Certificate into a Bachelor of Education (CCES) and completing a Bachelor of Theology with the Sydney College of Divinity.

In 1988, Pat returned to St. Mary’s High School, Maitland. 1992 saw her in Sydney once again for further study. She is presently completing a Masters of Theology through the Sydney College of Divinity with a thesis exploring the question of whether there is a place for women in the ministering church.

“I am looking forward to meeting people as I find my way around this beautiful campus. Thanks to those who have made me feel so very welcome.”

A SECURE FUTURE

This University is widely recognised for its pleasant, natural environment but it is also one of the safest campuses in Australia.

During 1993, additional attention was paid to personal and property security and there was an increase in patrol services. Wide, well lit corridors, have helped to maintain a history free of serious incidents.

Mr Philip Pollard, Senior Architect/Planner, explained that one of the aims of the increased lighting was to create a well lit pathway encouraging users at night to use the same walkway. “It’s called the ‘passive surveillance’ theory,” Philip said. “If more people use the same path, then there is less likelihood of problems occurring.”

Mr Don Foster, Head, Estates and Services, said Callaghan did not have a history of serious incidents, despite its natural bushland setting. “Compared to other universities, we have been very fortunate in this area but we need to keep constantly assessing the security situation and improving it.”

With this in mind, a Campus Security Committee has been set up under the Chairmanship of the Pro Vice-Chancellor (Development), Dr Les Eastcott. The Committee will consist of Dr Eastcott, Don Foster, the Dean of Students, the President of the SRC or nominee and a nominee of the University Union.

In addition, “Uniwatch”, a brochure which encourages people to take some responsibility for their own safety offering suggestions as to how they may do so, has been re-printed for distribution this year. As well, for the rare occasions when problems do occur, there is now an internal emergency telephone number available - 5888.
"HELLO!" "I LIKE YOU." "WHAT'S THE TIME?" "I DON'T LIKE CUCUMBER." "I'M THIRSTY."

Words...everyday words. Speech is something that we all take for granted; being able to communicate our thoughts and emotions with each other directly and immediately.

But there are those for whom speech constitutes a major struggle; a schoolgirl with cerebral palsy, a three-year-old having difficulty in learning to speak, a middle-aged stroke victim, a young road accident victim with brain damage, an elderly sufferer of Alzheimer's disease, an eight-year-old who stutters, a teacher who has lost her voice...just some of the people who could benefit from the help of a speech pathologist.

Speech pathologists treat people of all ages who are suffering from speech and language disorders with the aim of improving their quality of life or educational potential. These disorders may be the result of a physical problem such as a cleft palate, throat cancer or brain damage. But equally so, there can be social and/or emotional consequences such as anxiety and shock which contribute to the disorder.

There is a continuing strong demand for speech pathologists and in order to help meet this need, the University has introduced a Speech Pathology Degree course this year, with a first-year intake of 25 students.

The inaugural position of Senior Lecturer in Speech Pathology has been filled by Dr Alison Ferguson, a graduate from the University of Sydney, who has over 12 years of clinical and academic experience in the field of speech pathology. "The demand for speech pathologists is very great at the moment," Alison said. 'This was one of the main reasons for the Newcastle course coming on line. We know that we can still find them work at the completion of their training."

Areas outside of Sydney are particularly disadvantaged in terms of speech pathology services. Whilst they do exist, many country centres find themselves sharing practitioners. "When I was based at Orange, I also serviced West Wyalong as well," Alison explained. "So the idea behind developing a course outside Sydney was to offer a course where applicants actually live already and where they are therefore more likely to work in the future."

Alison hopes that the establishment of the course here in Newcastle will also help the general community in the Hunter gain a better understanding, not only of the role of a speech pathologist, but also of the problems that their clients experience. "Imagine if you were travelling in Russia, for example, were unable to speak Russian and suddenly found yourself very ill?" she outlined. "You'd be unable to tell anyone what was wrong, what you needed, even who you were! That explains in a small way how people feel when they undergo some major trauma such as a road accident or stroke and then on top of that, find themselves unable to communicate as well. Speech pathologists to these people can be equated to you finding an English-speaking doctor in St. Petersburg."

PUBLIC LECTURE
New York Times columnist and two times Pulitzer Prize winner, Mr Anthony Lewis, will be giving a public lecture entitled 
**Free Speech and the Media**
in the Purdue Room at 1.30 pm on Tuesday, 15 March.
All staff, students and members of the public are welcome to attend.

MEMORIAL TREE PLANTING
Friends and colleagues of the late Dr Colin Aislabie are invited to attend a tree planting ceremony in his memory to be held at 10.30 am on Wednesday, 2 March, in the garden area adjacent to the Geography Building entrance, Callaghan campus.
A long-serving member of staff, Dr Aislabie passed away last year after a period of ill-health. A member of the Department of Economics for 24 years, he also served as Director of the Institute of Industrial Economics.
Dr Aislabie is sadly missed by fellow staff members and students, who have contributed to a Memorial Fund. The money raised will be used to purchase a painting that will be hung in the stairwell of the Economics Department.
INDUSTRIES COMMISSION VISITS NEWCASTLE

That the University of Newcastle continues to play a role in Federal Government policy making was demonstrated recently when two senior executives of the Industries Commission flew to Newcastle to consult with economist Mr Bill Mitchell.

Describing the meeting as a “healthy interaction between academia and the bureaucracy”, Assistant Commissioner, Ms Philippa Dee and Chief Modeller, Mr Anil Syed discussed and argued issues of importance to the Australian economy.

The purpose of this meeting was to discuss a report commissioned by the ACTU from Bill Mitchell on the Industries Commission’s draft report, “Impediments to Regional Industry Adjustment”. The Industries Commission’s document recommended lowering wages in regions of high unemployment in order to drive workers out of those regions.

Mr Mitchell has published internationally in the area of wage setting and employment theories. He delivered a report to the Public Inquiry into Regional Impediments which negated this argument and stated that the techniques used to draw these conclusions were inadequate and, in some cases, used incorrectly.

“The problem isn’t so much that some regions have low demand and other regions have high demand,” explained Bill. “Rather, there is no demand anywhere - we are in a period of slow growth. The idea that you can solve the problems of slow growth by cutting wages has no theoretical strength.”

The Industries Commission, according to Bill, has fallen into the classic “practitioner’s trap” where econometric techniques are outdated before they are actually applied.

FROM THE VICE-CHANCELLOR...

The new Government targets for school leaver intake were widely applauded when announced. I myself raised with the Government group, at the time of their visit, the question of the views of the academic staff, widely reported to me in this University, that we tend to have in each First Year intake a group of not terribly committed, not terribly able and not terribly persistent students - those who are not yet set on a University path. The additional school leavers, I suggested, would only add to the problem. This was dismissed as anecdotal evidence, which it was: but of course, some anecdotes are true.

The school leaver targets across the country have now brought about dismay and concern among mature age applicants as well as with applicants from all pathways other than the orthodox school route. Many are wishing to question the justice of this approach. They may well do so. University staff across the country know that they prefer to teach committed and able students and would probably say that they have more chance of finding these among the non-school leaver entrants.

But more importantly, we have probably seen something else here. For a number of years very large unmet demand figures have been promulgated in the media, emanating from the AVCC, ranging from between 40-50 thousand per annum. This is considered to constitute a social problem of major dimensions: indeed one of the early mistakes of Bond University lay in the acceptance of the literal truth of the unmet demand figures. The business and academic interests behind the early development of the University took these figures as fact and assumed that a private university would become an overnight success. This was not the case; the success of that institution was achieved with great pain and much more slowly than envisaged. Its success, in fact, owed very little to the pressure of unmet demand.

We have probably seen here the pricking of the unmet demand bubble. We always wanted to know how strong it really was. The new school leaver target set by the Federal Government has with one blow destroyed the credibility of the traditional figure and shown us that we are very close to having come to the limit of the real unmet demand. It is fairly clear that if the school leaver targets are increased incrementally over the next triennium (as is proposed) and if the demand for university places continues to fall or is static, then we will have an explosive combination.

The real message of all this is probably that universities will be competing with each other for the last remaining students out there sooner than we thought.

Professor Raoul Mortley
NEW AVCC PRESIDENT Elected

The Vice-Chancellor of the University of Sydney, Professor Don McNicol, has been elected President of the Australian Vice-Chancellors' Committee for 1994 and 1995.

Professor McNicol will continue to also be Chair of AARNet (the AVCC-sponsored Australian Academic Research Network.)

He said he looked forward to establishing a close and constructive relationship with the new Minister for Employment, Education and Training on behalf of the AVCC's 37 member universities. "Government and the universities need to establish a strong partnership based on the premise that we are jointly responsible for serving the higher education needs of Australians," he said. "I use the word partnership because universities are independent bodies with responsibilities and agendas which go beyond the policies of governments. We are not part of the Public Service, and we are certainly not branch offices of the Department of Employment, Education and Training."

CHLD HEALTH - A FRAGILE ECOSYSTEM

Child health in the '90s. Surely with the infant mortality rate having declined to its lowest level ever recorded, immunisation reducing the incidence of deadly and crippling diseases like poliomyelitis and advances in molecular biology seeing us on the threshold of effective treatment for genetic disorders, things have never been better? But according to Professor Graham Vimpani all is not well with the state of child health in Australia.

Delivering his Inaugural Lecture in November, to mark his appointment to the Chair in Community Child and Family Health, Professor Vimpani said there was no room for complacency, with Australia being confronted with evidence not only of a new morbidity but a new mortality as well. Adolescent suicide in Australia has doubled in the last 20 years, child abuse and sexual assault notifications are increasing, hundreds of thousands of children have blood lead levels in the range associated with risks of cognitive impairment and behavioural problems, and the nation has been shocked by the recent spate of child homicides.

According to Professor Vimpani, many of these child health outcomes are being determined by the impact of social change on the lives of our children and young people. "Someone recently said that whilst children don't starve in Australia many are still the victims of a peculiarly Australian form of famine - the famine of parental time," Professor Vimpani said. But there is the opportunity to positively affect outcomes in child health by taking an ecological view and practising community medicine, the Professor said.

In an ecological view, the child is seen as lying at the hub of a series of permeable concentric circles representing the family, the neighbourhood, and the social, cultural and physical environments and value systems which are the elements of our national life. Professor Vimpani outlined some examples of effective intervention at one or more levels within the ecosystem of childhood. One of these was the proven beneficial effects of counselling and home visiting programs. "There is accumulating evidence that befriending programs, (such as the Homestart program run by the Family Action Centre at this University), which use volunteers to undertake home visits, thus reducing social isolation and overcoming a lack of family support which are features of many high risk families, are effective in improving a number of adverse health outcomes", Professor Vimpani said. "In many ways, these programs seek to emulate the sense of urban village life lost in our contemporary commuter suburbs."

"Community paediatrics involves a paradigm shift; it is not just general paediatrics practiced in a community setting as opposed to a hospital. Despite the rhetoric, children have had a low priority in the last decade in Australia. Being an effective advocate for children's health is not for the faint-hearted in a country where gutter politics has been developed to a finely tuned art form. The ultimate and humbling challenge, of course, is to "pick the winners" and discern what is truly important in striving to promote the health of what is arguably one of the most critical ecosystems for the future of Australia, a system which will determine the quality of life and interpersonal relationships into the next century; the ecosystem of childhood."
UNIVERSITY TECHNOLOGY BRINGS EXPORT DOLLARS

Almost $400,000 worth of export dollars will be earned by Australia over the next six months thanks to a contract recently signed by the University's commercial arm, TUNRA Ltd.

The contract is with SISINDOSAT to carry out work for INDOSAT (Indonesia's international communications carrier). TUNRA will upgrade the oldest of INDOSAT's five 30 metre antennae, JAH 1A.

TUNRA's former Manager (see this page), Stephan Wellink, explained that the modifications will increase the life of the antenna and its ability to track effectively. "The antenna itself was built in 1969, so it's getting on a bit and spare parts are getting harder to find," he added. "If they have a breakdown, it's a lot of money per hour to be off the air. They need to upgrade to something that is more state-of-the-art and this is what TUNRA has been able to offer."

The technology was developed by TUNRA's Industrial Electronics Division (TIED) in conjunction with the University's Centre for Industrial Control Science (CICS) and is effectively creating a market, particularly in South East Asia. "Before this technology was developed, the only option for companies like INDOSAT was to pull outdated antennae down and build new ones. We now offer a substantially cheaper, quicker alternative."

TUNRA's move into Indonesia came as a result of a survey conducted on their behalf by AUSTRADE. "The survey indicated that Indonesia needed what TUNRA had to offer, namely tracking and control technology," Stephan outlined. "At present, they have an extremely small number of telephones per head of population, about half a telephone for every 100 people. Here in Australia, we have about 48 phones per 100 people. They need to upgrade their telecommunications, they know it and they're prepared to spend the money to do it. Similar opportunities exist for TUNRA's technology throughout South East Asia."

TUNRA's move into Indonesia came as a result of a survey conducted on their behalf by AUSTRADE.

Further work with INDOSAT is a real possibility as a second antenna, JAH 2A, is also due to be upgraded and TUNRA are contenders for that contract as well. "We have also put in a bid for a full earth station which is worth about $1.3M and I expect TUNRA to be competitive with this bid, too."

"I'm very proud of what TUNRA's done," said Stephan. "We've signed a fair-sized deal in 18 months and future prospects look quite strong."

Congratulations to Stephan Wellink, former Manager of TUNRA, who has taken up the new position of Senior Commercialisation Manager at the CSIRO's Institute of Animal Production and Processing at Lane Cove. Stephan said that his primary tasks would involve the management of intellectual property and patents for the Institute after he joins them mid-February.
PHYSICS HEAD RECEIVES INTERNATIONAL APPOINTMENT

Congratulations to Associate Professor John O'Connor, Head of the Department of Physics who has been appointed to the editorial board of a new journal.

The journal, entitled Surface Review and Letters, is an international journal devoted to the investigation of properties and processes occurring at the boundaries of materials. “The inaugural issue of this journal will be in June this year,” said John. “The appointment of an Australian representative on the editorial board is a recognition of the strength of the Australian contribution to surface science.”

THIS MONTH IN PRINT

In response to an increase in the number of Technology education courses throughout Australia, Dr John Williams from the Department of Applied Science and Technology has published two books through Macmillan.

The first, Introducing Design and Technology deals with the nature of design and technology as well as the resources, impacts and materials commonly related to a study of technology. The second, edited by John, entitled Design and Technology in Context, examines 10 major contextual areas in which technology is significant.

The increasing complexity of tax law will be less of a maze for university and TAFE students following the publication of a new textbook by Ian Wallschutzky, Associate Professor in Taxation at the University and Mr Garry Payne from the University of Sydney. Tax Questions and Answers has been specifically designed to assist tertiary students understand how to apply tax law in a practical context. Published by Butterworths, the book adopts a self-learning approach.

COMMUNICATION AWARDS FOR UNIVERSITY STAFF

The talented work of University graphic artist, Gill Stack, has been recognised by the Hunter Society of Business Communicators.

Gill, who works in the Information and Public Relations Unit, took out ‘gold’ in the Design and Layout category for the promotional package she prepared for the National Access and Equity conference which was held at the University last October.

Gill’s integrated package contained design and layout for a conference logo, pamphlet, letterhead, conference folder, name tags, stickers, tickets, banners, presentation bags, posters and fabric drops. Judges said Gill’s work contained innovative design and that she had translated both image and message to the design.

Two commendations also came to the University; one for UNINews and one for a colour photograph entitled ‘Corroboree’ which was taken by Barry Nancarrow.

Gill Stack - "work contained innovative design"
Achievements

Convocation, the graduate body of the University, will honour two outstanding graduates at an Awards Dinner to be held next month.

A Newcastle psychology graduate who has earned international renown in the field of mathematical formulations of human visual processes has been chosen as the recipient for the 1993 Convocation Gold Medal for Professional Excellence. Professor of Cognitive Science at the Curtin University of Technology in Perth, Professor Terry Caelli will be honoured for his outstanding contribution to psychology and cognitive sciences. Emeritus Professor J. Keats said international recognition of Professor Caelli's research contribution came in 1982, when he was offered the Killam Chair of Science at the University of Alberta, Canada.

"In my almost 40 years as an academic in Australia, I have never had the privilege of working with any other scholar who has demonstrated such an outstanding record in mathematical psychology and shown such excellence in his/her subsequent career," Professor Keats said. Professor Caelli obtained First Class Honours in Psychology and the Australian Psychological Society Prize.

Convocation will also present the Newton-John Award to Mr Kevin McDonald. The Newton-John Award recognises graduates of the University who have made a substantial contribution towards enhancing the quality of life of the community.

Associate Professor Max Maddock said Kevin had gone well beyond the call of duty throughout his professional life as an educator. Recently retired from his position as senior lecturer, Kevin has been honoured by numerous awards for his work for the environment, his teaching achievements and his community work, including the Order of Australia for his contributions to the welfare of handicapped children.

Mr Kevin McDonald, OA - environmentalist, teacher, community worker and recipient of the 1993 Newton-John Award

CHEMICAL ENGINEERING - 40 YEAR CELEBRATION

The first three graduates in Chemical Engineering at the University of Newcastle joined with other graduates and staff to celebrate the 40 year anniversary of the completion of their studies at a dinner held on campus in November, last year.

Mr Ernie Walpole, who addressed the dinner, along with two other students, James Carr and James Mackie, were the first students to receive degrees from the Newcastle University College, in 1953. "The course has changed a lot," Mr Walpole said. "The number of part-time students has dropped dramatically, we were better prepared in terms of "hands-on", but I think the course is tailored to today's needs. Newcastle is a very good University, small enough to be personal."

Professor Ian Stewart, the first Newcastle University Department Head, said in his address, that he was fortunate to come into the Department when he did. "After two years as a distant colony of the University of NSW, we became the University of Newcastle, with a range of new problems and new opportunities. In our Departmental story, it was initially a battle to stay viable as a small Department in a very competitive university."

Speakers from the three more recent decades responded to Professor Stewart's speech - Mr Phil White (1980s), Mr Jim Snow (1970s) and Dr Geoff Rigby (1960s). The first woman to complete her degree, Ms Lola Skelton, sent a letter of congratulations to the Department, noting with pleasure that 10 to 20 percent of chemical engineering students were now women.

A magic moment recreated. Carr, Walpole and Mackie (L to R) reunite after 40 years.
Dear Editor,

On Friday afternoon, 26 November, 1993, the University's link to the Australian Academic and Research Network (AARNet) was upgraded to 128 kilobits per second (kbps), an almost threefold increase in capacity. This should mean quicker response to most network tasks, especially file transfers. (It will not, however, make people reply to your electronic mail any sooner!)

The University's connection to the AARNet hub in Sydney has been a 48 kbps data link since AARNet's inception in June 1990. In less than twelve months, that link was virtually saturated with traffic to and from the University. Due to funding constraints in AARNet and technology limitations, no reasonable upgrade path was available until recently. Early this year, an upgrade was approved and orders placed.

The upgrade uses Telecom's Integrated Services Digital Network (ISDN), a national switched digital network based on 64 kbps channels which can be used for both voice - telephone - and data. This is the same technology used by the Ericsson PABX (telephone switchboard) installed at Callaghan and the new PABX at the Ourimbah campus.

Our AARNet link uses two channels, giving an aggregate speed of 128 kbps. While this should be adequate for our immediate needs, traffic growth projections indicate that upgrades will be required on a regular basis. With the equipment installed, this is just a matter of selecting the extra channel and paying the bill.

Now that the equipment is installed, it also provides a good basis for links to remote campuses. In fact, such links are currently being installed to the new campus at Ourimbah and to Renwick College at North Rocks, a part of the Royal NSW Institute for Deaf and Blind Children. People at all these sites will now enjoy access to the same network facilities as those on the main campus at Callaghan.

Yours sincerely,

David Morrison
University Computing Services

Dear Editor,

In pursuing some old books recently I came across a fable created by Robert Mager (1962, p. ix) reported in John P. De Cecco (1968, pp. 36-37). It goes like this:

Once upon a time a Sea Horse gathered up his seven pieces of eight and cantered out to find his fortune. Before he travelled very far he met an Eel, who said,

"Pssst. Hey bud. Where 'ya goin'?"

"I'm going out to find my fortune," replied the Sea Horse.

"You're in luck," said the Eel, "for four pieces of eight you can have this speedy flipper, and then you'll be able to get there a lot faster."

"Gee, that's swell," said the Sea Horse, and paid the money and put on the flipper and slithered off at twice the speed. Soon he came upon a Sponge, who said,

"Pssst. Hey bud. Where 'ya goin'?"

"I'm going to find my fortune," replied the Sea Horse.

"You're in luck," said the Sponge, "for a small fee I will let you have this jet-propelled scooter so that you will be able to travel a lot faster."

So the Sea Horse bought the scooter with his remaining money and went zooming through the sea five times as fast. Soon he came upon a Shark, who said,

"Pssst. Hey bud. Where 'ya goin'?"

"I'm going out to find my fortune," replied the Sea Horse.

"You're in luck. If you take this short cut," said the Shark, pointing to his open mouth, "you'll save yourself a lot of time."

"Gee, thanks," said the Sea Horse, and zoomed off into the interior of the Shark, there to be devoured.

The moral of this fable, Mager says, is that if you don't know where you are going you are likely to end up somewhere else...... and it may not be pleasant at that.

I find the image of the Sea Horse intriguing.

Sincerely,

L.R. Eastcott
Pro Vice- Chancellor (Development)
MATHEMATICIANS CONVERGE ON NEWCASTLE

About 100 mathematicians gathered at the University in February at the annual Mathematics-in-Industry Study Group.

The Study Group was established in 1984 by CSIRO to bring together mathematicians and industry in Australia. The Group, now being sponsored by the Department of Mathematics at the University of Melbourne and held this year at Newcastle, spent the week “brainstorming” industry-based problems from throughout Australia.

Dr Kerry Landman, from the Department of Mathematics at the University of Melbourne and Director of the Study Group explained that as well as receiving value for money, the eight presenters at this year’s Study Group were also particularly pleased with some of the results that were achieved.

“Out of the eight problems investigated, I would have to say that all of the presenters were pleased with the work that was done on their behalf. In particular, Woodside Offshore Petroleum (Perth), BHP Ironmaking (Newcastle) and Amcor (Melbourne) received excellent positive feedback,” Kerry said. “BHP, for example, wanted to know whether information they had received from the USA regarding the possibility of making steel, in under 10 minutes, by mixing coal and iron oxide in pellet-shaped moulds, was actually feasible. The Group found that this, in fact, was possible and worthy of further experimentation and investigation.”

Kerry outlined that each of the companies or institutions wishing to present their problems to the Group, must pay $2,000 if they are presenting for the first time or $3,000 if they are regular participants such as BHP. “When you think, though, that they are getting some of the best mathematical minds in the country working on their problem for eight hours per day for five days, the cost is negligible,” she added.

The good news is that at the completion of the week, the association between presenter and mathematician does not end. “The members of the Group that have been working on a certain problem often continue to work with the company long after the week is over. As you can imagine, we sometimes can only scratch the surface of problems during the five days. But at least, we do find out for businesses whether a solution is worth pursuing.”

Above: “Some of the best mathematical minds in the country”: ready to work on eight of Australia’s industry-based problems.

RESEARCHERS CROSS THE FINISH LINE

During the latter part of 1993, several students completed their studies for postgraduate degrees. Here is a sample of some of the research being pursued at Newcastle.

Chun Qing Li from the Department of Civil Engineering and Surveying was awarded a PhD after completing research in the area of time-dependent structural system reliability theory and its application, supervised by Professor Rob Melchers. Dr Li has developed a method to deal with structural system involving nonstationary processes, successfully applying the theory to deteriorating structural system and to practical reinforced concrete structures. The significance of his research is that: “the candidate has courageously attacked a dauntingly difficult problem in structural reliability ... the fact that the stochastic variables describing the model become nonstationary increases the difficulty by orders of magnitude”.

Michael Bartlett, a lecturer at Avondale College, has had over 15 years mixed experience as a school teacher and university student. University Council recently approved the award of Master of Mathematics for his thesis entitled Modified continuity for single-valued and set-valued mappings. The theme for the thesis resulted from a visit by Professor Petar Kenderov from the Bulgarian Academy of Sciences in 1992. There is now considerable interest in the analysis of set-valued mappings mainly arising from the development of differentiability theory which has application in optimisation. The modified continuity idea exploited in the thesis is a variation of standard continuity definitions which enables certain well-known continuity theorems to be generalised further.

A Doctoral thesis by Bob James, completed in the Department of History, links the secret world of the Freemasons with the industrial brotherhood of the Australian labour movement. Entitled Carnival and Discipline: May Day, Eight Hour Day and Other Labour Demonstrations in the Hunter River District, 1860-1940, the thesis argues that the conflict between the urge to carnival and the urge to control are at the centre of Australia’s history and that neglect of this struggle has deprived the study of Australian history of a great deal of richness and led to impaired understanding. Bob, a mature-age student, is Secretary of the Hunter Labour History Society.
RURAL HEALTH WORKERS

An initiative being undertaken by the Faculty of Medicine and Health Sciences is set to address the growing problem of a shortage of medical practitioners and health care professionals in country areas.

The initiative, organised by Professor Sandy Reid, Head of the Discipline of General Practice, is in the form of a Rural Health Club comprising participants from such academic disciplines as Medicine, Nursing, Social Work, Nutrition and Dietetics, Medical Radiation Technology and Occupational Therapy. The Club’s aim is to provide support, education and practical information for health professionals interested in pursuing a career in a country area.

Co-ordinator, Ms. Julie Kay, said that while there is a documented over-supply of urban doctors, it was also well known that there is a crisis in the supply of doctors and other health professionals in the country. “The focus of the Club is to help undergraduates experience what it would be like to live and work in a country area,” she said.

Activities are centred around student meetings, weekend meetings and rural-based community attachments. The aim is to present a realistic picture of rural life and professional practice and to eliminate any pre-conceived ideas. The first student meeting will be held mid-March and speakers will include Paul Collett from the Rural Doctors Resource Network who will discuss advances in rural education, together with Marilyn Wilson from the Awabakal Medical Service who will speak on expectations, assumptions and attitudes. In addition, Medical and Social Work students will talk about their experiences during a rural elective.

$490,000 FOR REACTIVE SOILS STUDY

An improved understanding of the behaviour of building foundations on reactive soils in the Hunter Region will be the aim of a group of researchers who have been awarded $490,000 for a three year study.

One of the expected outcomes of the research will be residential and light building foundations that require less maintenance during their “design life”.

The collaborative research grant to the Geotechnical Research Group in the Department of Civil Engineering and Surveying at the University is being jointly funded by the Mine Subsidence Board of NSW and the Australian Research Council with additional funding and technical support from local consultants, D.J. Douglas and Partners.

The research will be conducted by staff members Dr David Smith and Associate Professor Scott Sloan as well as a senior research associate, Dr Mark Allman, who has played an integral part in establishing a sophisticated field site for measuring reactive soil behaviour.

“The aim of the research, which was initiated by David, is to shed some light on the physical processes that influence reactive soil behaviour. Reactive clay soils, which are widely distributed in the Lower Hunter and Lake Macquarie areas, and in many areas of Australia, are soils which undergo large volume changes upon wetting and drying,” said Scott. “The resultant ground movements are a serious concern in residential and light commercial areas as they may result in structural damage which typically may include cracking to internal walls and external brickwork as well as sticking doors and windows. The wetting and drying processes are a response to normal seasonal climatic variations and activities such as garden watering, leaking pipes and tree planting.”

“While the cause of the problem is simple, the physical processes are complex. The interaction of the soil-water-atmosphere system and the actual structure need to be considered. Additionally, there is some contention about the confounding influences of mine subsidence and reactive soil movement and it is hoped that this research will go some way to resolving this confusion.”

The initial study, started in 1992 and supported by the Mine Subsidence Board, has seen the establishment of a research site near Maryland and the collation of data relating to the nature and the distribution of reactive soils in the Lower Hunter and Lake Macquarie areas. The additional funding will allow the establishment of another major research site and 20 minor sites which will be monitored during the next three to five years.

Above: Studying reactive soils - (1 to r) Geotechnical Engineer with D.J. Douglas and Partners, Mr John Harvey, Chief Executive Officer of the Mine Subsidence Board, Mr Ernie To, with Associate Professor Scott Sloan and Dr Mark Allman in the laboratory at The University of Newcastle.
VACATION EDUCATION

Summer means University Summer Schools for many high school students around the country. During this year's vacation, the University welcomed over 200 students who attended two Schools in the fields of Science and Engineering.

During December, 112 Year 9 students from around the State attended the 1993 Pacific Power Science Summer School.

The School was opened by Griffith University's Professor Ian Lowe, spokesperson on Science policy in Australia and Chairperson of the Commission for the Future, who spoke on the impact of growth on society, the long term implications of it and how science must address the philosophy of continued growth to emphasise sustainability.

Throughout their week, students were introduced to a variety of scientific activities including laboratory sessions, lectures and geology excursions. Chairman of the Summer School's organising committee, Associate Professor John O'Connor, described the responses to the School as "most encouraging". They included: "A good week. A lot better than science at school!" "It was informative and well presented. I especially liked the Chemistry and Biography (perhaps Biology? - Ed.) Section." "Good opportunity to experience how Uni. works." "I'd like more activities like geology, chemistry, geography etc. where learning is made fun." "I had a good billet family."

The Summer School, in its second year, will hopefully continue as an annual event. "We were very fortunate to receive an excellent response from local groups willing to sponsor this event," John explained. "In particular, Pacific Power, Rotary District 267, Blue Ribbon Coaches, Industry Development Centre (Hunter), Pasminco Research Centre and Telecom were extremely supportive."

January saw 125 Year 11 students from around Australia and Papua New Guinea converge on the University for the BHP National Engineering Summer School.

A week of lectures, laboratory work, industrial site visits and project work was undertaken with the aim being for students to experience engineering first-hand and to encourage them to consider the profession as a career. Students enjoyed site visits to BHP Rod and Bar Products Division, Port Waratah Coal Services, dredging on Kooragang Island and A. Goninan & Co. Other visits included local organisations such as Newcastle City Council, Hunter Water Corporation, Roads and Traffic Authority and Candac Thiess.

Associate Professor John Chambers from the Department of Mechanical Engineering said the School, which had been organised by the Institution of Engineers, Australia, was a very successful follow-up to the first National Engineering Summer School held in Sydney in 1993. "The University's Engineering Faculty offered the students the opportunity to experience six engineering disciplines - Chemical, Civil, Environmental, Electrical, Mechanical and Computer," he said.

SWISS COMPOSER CONDUCTS VISIT

The University's Faculty of Music was visited by Swiss freelance composer, Heinrich Schweizer, during November. A Senior Lecturer at the University of Singapore, Heinrich's visit was sponsored by a Pro Helvetia Grant, its aim being the promotion of Swiss music abroad.

During his brief time in Newcastle, Heinrich delivered a public lecture at the Conservatorium on "Contemporary Swiss Music" which was well received, particularly by Conservatorium students.

Born in Switzerland in 1943, his early musical studies involved the violin, the clarinet, the bassoon and the piano. A graduate of the Zurich Conservatoire, he received his diploma as an orchestral player in 1967, enjoying two years with the Capetown Symphony in South Africa from 1971-72. In 1973, he returned to Zurich, graduating as a teacher of musical theory. While studying, Heinrich played with the Zurich Tonhalle Orchestra and began composing a variety of chamber music and orchestral works.

Five years in New York followed, with the world premier of his Historical Symphony given by the American Symphony Orchestra in 1979. Between 1981 and 1986, he lived in Paris, where he wrote several pieces including the innovative New Sound, which makes use of recent electronic technical development. Continuing his nomadic lifestyle, Heinrich moved to Hong Kong in 1987 for five years before taking up his current position in Singapore.

Speaking about this, his first visit to Australia, Heinrich expressed his pleasure at being here. "I find it very beautiful, very clean, especially in Newcastle. The air is fantastic. After being in New York and Hong Kong for 10 years, this is like a summer holiday in a Swiss mountain."