

CAMPUS NEWS

A MAGAZINE FOR THE UNIVERSITY

VOL. 2 NO. 11

WEDNESDAY, NOVEMBER 17, 1976

University, W.I.E. plan Dec.6 forum

A forum on the possibilities of association between the University of Wollongong and the Wollongong Institute of Education will be held at 12.30 p.m. on December 6 in the University of Wollongong Union Hall.

University Vice-Chancellor, Professor L. M. Birt, and Institute Director, Mr. M. E. Hale, have arranged the forum.

Invitations have been issued to Council members of both institutions and to students and staff to attend and participate in the discussions.

In calling for the discussions, Professor Birt and Mr. Hale referred to the concern of government, the Commission on Advanced Education, and the Universities Commission about teacher supply and demand, the rationalisation of the use of resources, and education and vocational training as evidenced by the Federal Government's Committee of Inquiry into Education and Training.

It is hoped that the forum will raise the possibilities of further co-operation between the University and the Institute and/or rationalisation of their operations.

Any of those invited, who wish to comment on any of the issues, have been requested to prepare a summary statement for circulation before the meeting.

Mr. B. Gillett, a member of the Councils of both organisations, will chair the forum.

"As chairman of the forum, I share the view of Professor Birt and Mr. Hale that the meeting will be conducted as an open forum not necessarily leading to any resolutions, but rather providing an opportunity to discuss first steps in the possible formulation of a joint policy," he said.

This issue is last for 1976

This is the last issue of Campus News for 1976 - the first year the publication has been produced in its present format.

I take this opportunity to thank all those contributors and readers who have participated during the year in the development of the publication.

Campus News is very much a reflection of their ideas and activities, and I look forward to their continuing support next year.

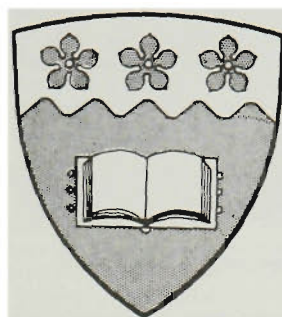
I also take the opportunity to thank a very hard-working and enthusiastic group of people, both on and off the campus, who have participated in the production of each edition.

Without their help, publishing Campus News would be impossible.

Next year, the first edition of Volume Three will be produced to co-incide with Orientation Week.

Contributions for this edition should reach the Information Office no later than January 14.

Tony Barker,
Information Officer.



ARMORIAL
BEARINGS
ARE NOW
OFFICIAL

The Richmond Herald of the College of Arms, London, has advised the Registrar, Mr. R. F. Stewart, that the University's submission for armorial bearings has been successful.

The Garter King of Arms has granted arms which now become the University's exclusive property. Letters Patent confirming the grant are now being prepared for presentation to the Chancellor who signed the formal petition seeking the grant earlier this year. It is likely that the Richmond Herald, Mr. J. P. Brooke-Little, will come to Australia next year, and it is possible that he will visit the University to formally present the official document. This visit and presentation ceremony may coincide with the 1977 Graduation Ceremony.

The history of the Wollongong arms dates back to early 1974 when Mr. A. Ian Ferrier, a Brisbane architect who had earlier prepared arms for International House, was contacted and asked to assist the University. Mr. Ferrier, who had also designed arms for Griffith University and a number of other institutions, agreed to help.

After extensive correspondence, he came to Wollongong in May, 1975, and presented several drafts incorporating local motifs for the consideration of the Academic Senate and the Ceremonials Committee of Council.

Mr. Ferrier was anxious that the arms should reflect the Illawarra Region and that the University colours should spring from the elements used in the arms. He also suggested that the arms should be seen to blend with the academic dress chosen for the University.

The proposals which Mr. Ferrier submitted were circulated by the Ceremonials Committee to the University community for comment. The advice of several other heraldic experts, Dr. F. Mathews and Ms. M. Blacklock, of Sydney, was also obtained.

Eventually, the arms, as they now are, evolved. Council endorsed them in December, 1975, and the petition for a grant of arms was then lodged with the Richmond Herald.

Council at its October meeting noted that the arms had been granted and resolved that they may be used only with Council's approval.

This action will not prohibit the use of arms on such items as T-shirts, ties, and so on, but will ensure that their use is controlled. The arms, which incorporate the wave motion from the popular University Year Symbol, features the blue of the sea, the gold of the sand, and the red of the Illawarra flame tree. The blazon is: "Azure an open book proper bound gold on a chief wavy or three cinquefoils gules."

No motto has yet been decided on. A motto may be chosen and added to the arms at any time.

Pilot plant removes cyanide

An interdisciplinary research group drawn from the Departments of Chemistry, Mechanical Engineering and Electrical Engineering has developed a pilot plant for treating cyanide in steelworks gas scrubber effluent.

This seawater effluent cannot be treated by the conventional alkaline chlorination process.

Previous laboratory scale studies by Dr. J. Ellis and Mr. P. Rowley (Chemistry) had established that the cyanide in these effluents could be removed by complexation with ferrous iron (e.g. from pickle liquor) followed by oxidation of residual cyanide with Caro's acid.

Dr. R. Wheway, Mr. J. Clancy and Mr. A. Cartwright (Mechanical Engineering) designed and constructed a small pilot plant to provide continuous flow data to complement the previous batch studies and simulate the industrial situation. The plant treats 60 litres per hour of a mixed scrubber effluent containing 50mg/litre of cyanide.

The crude effluent is mixed, then enters the first reaction tank (A) where it is treated with a mixture of ferrous sulphate solution and sodium hydroxide. The mixture reacts further in a mixing coil, then enters a second reaction tank (B) where the pH drop caused by hydrolysis/oxidation of the excess iron is adjusted automatically. An electronic controller designed by Dr. G. Trott (Electrical Engineering) is used for this purpose.

The effluent then passes to a sedimentation tank where Prussian Blue and iron sludge settles out and is continuously pumped away.

Finally, the overflow from the tank is treated with sodium hydroxide and Caro's acid (H_2SO_5) in a third tank (C), where rapid oxidation of residual cyanide occurs. The final effluent contains only 0.1 mg/litre of cyanide.

Further developmental work is proceeding to optimise the cyanide removal while minimising consumption of chemicals. Development of an automated "feed forward" controller for the addition

of the required dose of Caro's acid is currently under investigation. Techniques for filtering and roasting the sludge from the first stage also require further study.

The design of the plant is very flexible, and it will be used in future for related studies on the oxidation of industrial effluents.

The research on effluent treatment has been funded by the A.R.G.C. and the Water Research Foundation of Australia.

Institute donates books



AUSTRALASIAN Institute of Mining and Metallurgy president, Mr. C. H. Martin (middle) presents one of the books about the economic geology of Australia, New Zealand, and Papua New Guinea to the Vice-Chancellor, Professor L. M. Birt (left), at a presentation in the Library on November 1. Academic Senate chairman, Professor G. Brinson, looks on.

A set of books about the economic geology of Australia, New Zealand, and Papua New Guinea was presented to the University of Wollongong on November 1.

Australasian Institute of Mining and Metallurgy president, Mr. C. H. Martin, presented the books to the Vice-Chancellor, Professor L. M. Birt, in the University Library.

The donation is a mark of appreciation for the University's assistance at the Institute's 1976 annual conference held on the campus in May.

The five volumes and a map supplement were produced by the Institute and comprise more than 3000 pages.

The books are entitled, **Economic Geology of Australia and Papua New Guinea** (four volumes on Metals, Coal, Petroleum, and Industrial Minerals and Rocks), and **Economic Geology of New Zealand**.

Superbly produced, they are standard reference works in the libraries of the world and give authoritative information on the mineral wealth of the countries involved.

Valued at \$150, the books will become part of the Library's general collection.

Camera Club competition

The University Camera Club's black-and-white print-of-the-year competition has been won by Mr. John Willis, a laboratory craftsman in the Department of Electrical Engineering.

His winning print entitled, "What's Up Here?", and featuring snails and mushrooms was published on page four of Campus News Vol. 2 No. 10 on October 6.

An entry from Mr. Graham Strachan, a postgraduate geology student, was judged the best colour slide of the year. It was entitled, "Playing Possum".



THE PILOT PLANT for treating cyanide in steelworks gas scrubber effluent developed by a University interdisciplinary research group.

WIN-TV film has special preview

The WIN-TV feature documentary, *University . . . a New Way of Life*, was screened for an invited audience of about 120 community and University representatives in the University's Pentagon Lecture Theatre No. 3 on October 29.

In presenting a video-cassette of the 30-minute special to the University before the preview, WIN-TV Programme/Operations manager, Mr. Alan Hoy, recounted the history of its making.

He said: "Some three years ago during a Rotary meeting, Professor Bill Upfold suggested that we should consider producing a film on the then University College.

"I agreed that the idea had merit and that it should proceed. However, for one reason or another the project did not get under way at that particular time.

"Twelve months ago, Professor Birt invited me to a conference with Dr. Pearson-Kirk, Mr. Tony Barker and Mrs. Dorothy Schneid to formulate plans for the film and I am happy to say that this time we were successful.

"There were several options open to us in regard to the production technique.

"We could have made a short, relatively inexpensive programme for local television use only; we could have produced a cheap, instructional-type film for limited use by the Schools Liason Committee, or have spent a considerable amount of time, money and expertise on a feature film for use by both WIN-TV and the University. The latter technique was chosen and John Schindler was appointed producer.

"The production of a documentary on University life would not have been possible without the assistance of University personnel. We requested that someone from the campus be appointed as a liaison officer and in a very democratic way Lynn Edwards was appointed to that position.

"Lynn's role turned out to be a major one. She not only acted as our go-between but also ended up writing the script and searching for talent. We deeply appreciate Lynn's efforts.

"Filming a documentary on a new university was not an easy assignment - particularly when the production was spread over a number of months - during which time the campus was being completely transformed by new buildings and landscapes.

"I am sure you will agree after viewing the programme that Horst Vahrenholz, as cinecameraman, has portrayed the campus as a beautifully lush picturesque setting.

"Our two stars - Rod Monk and Lynn Longhurst - were extremely professional. Both gave excellent performances and nothing was a problem to them. We were, however, a little concerned when Rod - who plays a boy from the country - was required to wander through a herd of cattle.

"I think Lynn Edwards' casting ability was somewhat shattered when Rod enquired 'which one is the bull?'"

Mr. Hoy said that WIN-TV was delighted that Australian Iron & Steel, as a community service, had accepted sponsorship of the programme for its public screening on WIN-TV on October 30.

He said: "You will also be interested to know that the Australian Broadcasting Control Board has previewed the tape and has granted a full educational quota under their points system.

"We have had an extremely happy association with the University during the production, and Chancellor Hope, in presenting this video cassette to you, I trust it will assist your Schools Liason Committee to achieve its objectives."

Approved research organisation

The Australian Industrial Research and Development Incentives Board has advised that the University has been recognised in the Australian Government Gazette as an approved research organisation for the purposes of the Industrial Research and Development Incentives Act, 1976.

This approval is deemed to have had effect from July 1 last year. Further details are available from Research Committee secretary, Mr. T. Moore (ext. 398).



WIN-TV Programme/Operations manager, Mr. Alan Hoy (right), presents a video-cassette of *University . . . a New Way of Life* to the Chancellor, Mr. Justice Hope, before the preview screening on October 29.



LYNN LONGHURST and Rod Monk (right) who played the roles of Sue and Warwick in *University . . . a New Way of Life* with WIN-TV Programme/Operations manager, Mr. Alan Hoy, after the preview screening on October 29. The University presented gifts to Lynn and Rod in appreciation of their contribution to the film.

TOP AWARD FOR WIN-TV FILM

WIN-TV's production, *UNIVERSITY . . . A NEW WAY OF LIFE*, has won the 1976 Television Society of Australia Penguin Award for the best regional station programme.

The award was announced at the society's annual presentation night in Melbourne on November 7.

The Penguin Awards, the most prestigious of all awards for Australian television, are judged by members of the industry, including commercial and A.B.C. television stations and the film industry.

This is the second year in a row that WIN-TV has won a Penguin Award.

The channel will screen *UNIVERSITY . . . A NEW WAY OF LIFE* again on Friday, December 10 at 5.45 p.m.

\$31,821 from A.R.G.C. for 1977

The Australian Research Grants Committee (A.R.G.C.) has made nine grants totalling \$38,821 to University of Wollongong academic staff for research work next year.

This compares with the \$31,524 awarded to academic staff for research projects this year.

The largest single grant is \$16,679 for the continuation of Professor Peter Fisher's research into solid state spectroscopy (electronic and vibrational spectra of solids).

Professor Fisher, who is chairman of the department of Physics, has now received a total of \$70,455 from the A.R.G.C. for this work.

Of his 1977 grant, \$10,679 have been provided for personnel, \$5,000 for maintenance, and \$1,000 for equipment.

The only new project funded is in the biological sciences where Professor A. D. Brown and Dr. R. McC. Lilley, both of the Department of Biology, have been granted \$8665.

Their project is entitled photosynthesis and osmoregulation in marine algae (isolation and study of chloroplasts from *Dunaliella*).

Professor Brown, who is chairman of the Department of Biology, has also received \$5300 for his continuing thermodynamic studies of solute retention and solute fluxes in micro-organisms.

Other grants, all for continuing projects, are:

Dr. P. G. Burton (Chemistry): \$1000 for studies of the influence of the chemical environment on the bonding, spectra, and reactivity of molecules in condensed media.

Dr. R. N. Chowdhury (Civil Engineering): \$2500 for investigations concerning natural slope stability.

Dr. J. Ellis (Chemistry) and Dr. R. T. Wheway (Mechanical Engineering): \$2034 for clarification and detoxification of effluents from the steel industry.

Dr. B. G. Jones (Geology): \$648 for a sedimentological investigation of the Pertnara Group, Amadeus Basin.

Dr. R. McC. Lilley (Biology): \$840 for research into metabolic fluxes across chloroplasts envelope membranes and the regulation of photosynthesis (phosphate translocation in pea chloroplasts).

Associate Professor N. Standish (Metallurgy): \$1119 for combining flow of fluids in packed beds.

In addition Professor B. Halpern, chairman of the Department of Chemistry, and Associate Professor P. D. Bolton (Chemistry) have received a National Health and Medical Research Council grant of \$6500 for research into the screening for metabolic disorders by gas-liquid chromatography and mass spectrometry.

Professor Halpern has also shared a N.H. & M.R.C. grant of \$18,978 for the application of gas chromatography-mass spectrometry and related techniques to the study of inborn errors of metabolism.

University is base for research

The Illawarra Regional Advisory Council, after discussions with the Vice-Chancellor, Professor L. M. Birt, has decided to set up a Regional Research Unit based on the University.

The unit would serve an important community role, Regional Advisory Council chairman, Mr. K. Bond, said in the Council's 1975-76 annual report.

He said: "Over the years, the Regional Development Committee and its successor, the Regional Advisory Council, have worked with members of the Economics Department of Wollongong University College - - now the University of Wollongong - - in research and preparation of the many reports that have been prepared by these regional bodies.

"The research input has now been expanded to include other disciplines within the University.

"And, following discussions with the Vice-Chancellor, Professor Birt, it was decided to set up a Regional Research Unit, based on the University, which would serve an important community role.

"Membership will be based on an inter-disciplinary team and co-opted members from the community, according to special qualifications as and when required."

Mr. Bond said that the Unit's main role would be in the identification of research problems, the preparation of submissions for funds which involve research design, the evaluation of consultants' submissions, the organisation of seminars for the review of reports, and research operations mainly in a supervisory role.

He said that the Unit might also have an important function to perform in defining lines of communication and lines of authority in regional development activity.

Views sought on memorial

The University Council's Buildings and Grounds Committee is considering a proposal for a memorial on campus recognising subscribers' contribution to the 1959 Mayoral Appeal for "the provision of education facilities at university level" at Wollongong.

Before making a recommendation to Council, the Committee wishes to ensure that University members have an opportunity to express their views on the proposal.

In discussion to date, ideas have ranged from a commissioned sculpture to be erected in a conspicuous spot (possibly close to, but within, the new main entry to the University which will be built

next year) to the erection of an inscribed plaque near the fig trees in the central square and the dedication of a "founders' grove".

Estate Manager, Mr. J. F. Bell, said that any suggestions should recognise the following considerations:

1. that it was appropriate to provide such a memorial soon after the creation of the University;
2. that the memorial should be in a spot where it would be seen by most people who came to the University;
3. that it should be in keeping with the character of the campus.
4. that, if it was erected at the present stage of development, it should not involve the University in an expense which people would see as diverting resources from the University's primary functions.

Mr. Bell said that to enable a recommendation to be made this year any views or proposals for the committee's consideration should reach him by November 26.

Promotions are approved

The University Council at its October 29 meeting approved the following academic promotions:

Dr. K. J. McLean (Electrical Engineering) to Reader on January 1, 1977.

Dr. D. Pearson-Kirk (Civil Engineering) to Senior Lecturer on January 1, 1977.

Dr. J. Kontoleon (Electrical Engineering) to Senior Lecturer on January 1, 1977.

Dr. R. W. Young (Geography) to Senior Lecturer on January 1, 1977.

Dr. R. A. Facer (Geology) to Senior Lecturer on April 14, 1977.

Dr. A. J. Fielding (Education) accelerated progression within the senior lecturers' range.

Dr. R. McC. Lilley (Biology) accelerated progression within the lecturers' range.

Dr. E. Richards (History and Philosophy of Science) accelerated progression within the lecturers' range.

Director announced

The State Minister for Education, Mr. Eric Bedford, has announced the appointment of Mr. Douglas Arthur Swan, B.A., the Director of Primary Education and Assistant Director-General, as State Director-General of Education.

Mr. Swan will take up his appointment on the retirement of the present Director-General, Mr. J. D. Buggie, early in 1977.



Fig trees a landscape feature

The three large fig trees (*Ficus macrophylla*) in the University's central courtyard constitute one of the most significant single landscape elements on the campus.

They are a remnant of rainforest which once flourished on the banks of the creek before the land was cleared and the creek diverted.

With an age now well in excess of two-hundred years, they formed part of the forest which Captain Cook saw as he sailed past in 1770.

Old trees of rainforests lose their adaptability to change; and disturbances such as the creek diversion, which removed much of their permanent water supply, mechanical damage, clearing of the surrounding protective forest, and air/water pollution have done much to reduce the vigour of these trees.

In recent years, steps have been taken to stop deterioration of the trees.

A fertilizing programme is underway to replace the natural humus of the forest floor. Pruning and tree surgery are being carried out to remove dead wood and to seal cavities and openings in the trees. This will slow down wood rot and other parasites in the trees.

The prop used to support the only remaining branch of the north-western tree is seen only as a temporary measure, since there is no way back for this poor old tree, and another ten years will probably see its death and inevitable removal.

Six fig-tree seedlings have been planted to replace this one, the seedlings being progeny of the largest of the three.

Despite the appearance of one of the trees (loss of most of its leaves in late winter), the two large trees are in excellent health and they will be a feature of the courtyard for many more decades.

Leon Fuller,
University Landscape Supervisor.

A SECTION of one of the fig trees during recent work to crop dead branches.

Students Workloads report

The Working Party on Student Workloads, consisting of academic and student representatives from each faculty under the chairmanship of Dr. B. J. Opie, submitted its first interim report to the Academic Senate in August this year.

The working party was charged with defining the problems associated with student workloads and with reporting to the Academic Senate.

Opinions were sought from the academic staff and from the student body on the nature and extent of workload problems.

Statements from students indicated that significant workload problems existed.

Contributing factors were: multi-strand subjects, the method of continuous assessment used in some departments, inadequate library facilities, and timetabling difficulties caused by clashes and close sequencing of lectures in the same department or study area.

Only seven of the twenty academic departments approached responded. The response showed that various matters related to workloads had been discussed with students in those departments.

The working party also sought information from the Counselling Centre about the workload problems of students who had consulted the Counsellors.

The Counsellors' experience was that the same problems, as outlined above, had also been raised by students during consultation.

The Academic Senate received the report and resolved that copies be referred to departmental chairmen, requesting that they consider the implications (if any) for their departments and provide the working party, by the end of session two this year, with information concerning action they are taking or propose to take to identify and remedy problems relating to student workloads.

The Academic Senate also invited the working party to submit a proposal incorporating an estimate of resources required on how student workloads could be further investigated.

First Remedial English report

The Working Party on Remedial English, chaired by Professor R. G. T. Southall, submitted its first report to the Academic Senate in August this year.

Its findings indicate that one-third of university under-graduates could benefit from remedial work in English comprehension.

This conclusion was based on the performance of forty-seven students in an ACER standard test of reading skills, and these results may be favourably influenced by the fact that the test group consisted of 100-level English students.

When subject pass-rates for the test group were examined, it appeared that there was ground for concluding that deficiencies in English comprehension skills were associated with a relatively poor academic performance.

From a survey of staff opinion which the working party also conducted, it appeared that ten percent of first-year students were disadvantaged because of poor written expression. Although there were differences of opinion between faculties, this figure was the composite median estimate when all opinions were pooled.

The survey also showed that all departments, except Mathematics and Metallurgy, required students to submit a considerable amount of written work.

The Academic Senate received the report and noted that further reports would be forthcoming.

Before the end of the second session, the working party conducted tests with third-year Psychology students, previously tested in 1974 during their first year.

These tests will be used to determine the standard of English required to graduate with a Wollongong degree.

University Counsellor, Ms. Monica Manton, has replaced Mr. McLennan on the working party and Ms. I. M. Southall has replaced Ms. J. M. Jones, who retired from the working party some time ago.

Mathematics: graduate studies

Since Professor A. Keane's appointment in 1964 as Department of Mathematics chairman at Wollongong University College, a substantial number of higher degrees have been awarded for study and research to students of the department.

These include: twenty-two B.Sc. (Hons.), eighteen M.Sc., and eleven Ph.D. degrees conferred by the University of New South Wales. The only higher degree conferred at the first graduation ceremony of the University of Wollongong in 1976 was a Ph.D. in Mathematics.

After the University of Wollongong was established, the University Council approved requirements for the award of the degree of M.Sc. in Mathematics and the degree of Ph.D. In addition, a new graduate Diploma in Mathematics has been established.

A common feature of these awards is that students must successfully complete a course of graduate study and/or research in fields of departmental interest.

These fields include: Applied Mathematics, Computing Science, Numerical Analysis, Operations Research, Physical Oceanography, Pure Mathematics, and statistics. Enrolment can be approved for part-time or fulltime study.

Other aspects of these awards are set out below.

HONOURS DEGREE COURSE

This involves course work and participation in the Honours Seminar, and requires one year of fulltime study or two years of part-time study. Any programme longer than two years is unusual and would require express approval. As such, any part-time course, from a pass degree, in excess of two years would be more suited to a Graduate Diploma or Master of Science in Mathematics. Entry to the programme requires the departmental chairman's approval.

THE GRADUATE DIPLOMA IN MATHEMATICS

Entry is usually from a pass degree (B.Sc., B.A., or B. Math.) with a major in any branch of mathematics (although majors in other subjects may also be suitable).

The requirements include course work and participation in the Honours Seminar, which involves a modest project. Most of the course work is at graduate or honours level, although up to twelve credit points (one-quarter of the total requirements) can be taken from advanced undergraduate courses.

The minimum time for completion is one year; and this would require fulltime study. The diploma is also suitable for part-time students, who can meet the requirements in a minimum of two years, although a longer period with a lighter average load is possible.

MASTER OF SCIENCE IN MATHEMATICS

Admission to this programme may be gained from:

- (i) an Honours degree in Mathematics or a Graduate Diploma in Mathematics; or
- (ii) a suitable pass degree.

If admission is approved from a suitable pass degree, the programme of study is equivalent to a Graduate Diploma in Mathematics plus the requirements as if admission had been granted in (i).

Basically, the M.Sc. requirements following Honours or a Graduate Diploma can be met in one of three ways:

- (a) by writing a thesis that embodies a student's research or exposition of a particular topic. The thesis would be subject to external examination and, if approved, would form the sole requirement for the award of the degree;
- (b) combining course work and a minor thesis (with equal weighting to both parts); or
- (c) by taking graduate courses and the writing of a project.

Whichever method is adopted, each masters student will be assigned a supervisor or advisor. The minimum time, with fulltime study, for completing the degree (from an Honours degree or Graduate Diploma) is one year. It is possible to complete the degree on a part-time basis.

DOCTOR OF PHILOSOPHY

This requires the submission of a thesis embodying research into a particular topic. Although this may be done on a fulltime or on a part-time basis, it normally requires at least three years from an

Honours degree or two years from a Masters degree on a fulltime basis.

The above descriptions are general. For further details prospective students should consult the University Calendar, Professor J. Reinfelds, the director of mathematics graduate courses and programmes of study; or any other member of the academic staff of the Department of Mathematics.

It should be noted that admission to any of the above programmes may be granted on degrees obtained at universities other than the University of Wollongong.

Prof. Williams to head big inquiry

A major Commonwealth inquiry into education and training will be headed by the Vice-Chancellor of the University of Sydney, Professor B. R. Williams.

Minister for Education, Senator Carrick, late last month announced the names of the committee of ten to conduct the inquiry.

The Committee comprises:

Professor B. R. Williams, chairman

Mr. M. H. Bone, director-general of the Department of Education, South Australia.

Mr. C. O. Dolan, national secretary of the Electrical Trades Union; a senior vice-president of the ACTU; a member of the Technical and Further Education Commission; and a member of the National Training Council.

Dr. A. M. Fraser, the director of the Queensland Institute of Technology; a member of the Commission on Advanced Education; and a member of the Queensland Board of Advanced Education.

Miss Pauline Griffin, an Australian Conciliation and Arbitration commissioner, who was for ten years a member of the Council of Abbotsleigh School, Sydney.

Miss E. M. Gutherie, staff inspector (Pupil Welfare and Curriculum), N.S.W. Department of Education; and chairman of the N.S.W. Committee into the transition from school to work.

Mr. J. A. L. Hooke, chairman of Amalgamated Wireless (Australasia) Ltd., and a member of the Defence (Industrial) Committee.

Sir Peter Lloyd, formerly chairman of Cadbury Fry Pascall Australia Ltd., and a member of the council of the University of Tasmania.

Dr. W. D. Neal, dean of the Faculty of Teacher Education at the W.A. Institute of Technology; and chairman of the W.A. Post-secondary Education Commission.

Mr. D. R. Zeidler, chairman and managing director of ICI Australia Ltd; and a member of the Defence (Industrial) Committee.

Senator Carrick said he believed the membership of the committee was appropriate for the most important inquiry into post-secondary education since the Martin Committee was set up in 1964.

Name change for Dept. of French

The University Council has decided that the Department of French will now be called the Department of European Languages.

Any reference in the Council's resolutions to the Department of French will be read and construed as a reference to the Department of European Languages.

The new name will operate from January 1 next year.

Met. Soc. proud of its traditions

The Metallurgical Society, the oldest non-sporting society on campus, has been continuously active for more than fifteen years and has several traditions.

One of these is the annual dinner, which has become a central feature in the society's calendar and which provides one of the several opportunities during the year for students and staff to meet socially.

At the dinner, it is customary to have a guest speaker whose interests lie outside the metallurgical world, yet whose specialty is interesting, informative and entertaining.

This year, the fifteenth annual dinner was held in October at Mt. Pleasant Sports and Social Club and was attended by about sixty people. Among the guests was Professor Geoff Brinson, Department of Metallurgy chairman and patron of the society.

The guest speaker was Professor Lauchlan Chipman, of the University's Department of Philosophy, whose topic was "Animal Magnetism" . . . a provocative title, since animal behaviour is one of his research interests and magnetism is an aspect of metallurgy.

While at times humorous, his underlying theme was seriously intended and his address provoked discussion about the distinction between thought and communication processes in animals in the light of man's behaviour.

The society customarily awards prizes for academic performances. Various Wollongong companies sponsor the prizes. A cash prize, sponsored by the Commonwealth Bank, was presented to graduate, Gary Dawson, by Met. Soc. president, Phil Boehme, who chaired proceedings and touched on a number of student and staff eccentricities.

Gary completed his degree last year and gained the award for a deserving performance, based on academic achievement, throughout his course.

A more traditional prize is the Trebor Snibor award for the most unorthodox performance. First presented in 1965, it originated when one of the first staff members, Robert Robins (hence Trebor Snibor), was involved in submitting a metallographic exhibit of a spurious specimen.

As an appropriate gesture, the judges awarded a token prize of a bag of cow manure. The award thus consists of a plastic moulding of a cow pad suitably mounted and engraved.

The 1976 recipient, John Piper, gained the award for notable achievements in his experimental work, which principally involved building an amplifier for use in conjunction with solidification experiments.

Both students and staff are eligible for the award, which the chairman described as "hotly contested" this year.

"Animal Magnetism"

A synopsis of Professor Lauchlan Chipman's address on "Animal Magnetism", which he gave at the fifteenth annual dinner of the University's Metallurgical Society, is printed below.

Philosophers have been attracted to the subject of non-human animals for two reasons.

The first is that our treatment of animals is a subject of ethical evaluation. While few would go along with the "vegans" who touch nothing which is an animal product (including milk and, in some cases, even woollen cardigans), most of us respect vegetarians and, while not sharing their views, do not dismiss them as ratbags - a change which has come about in this country only in the last decade.

Even the most carnivorously inclined of us are opposed to wanton cruelty to animals, presumably because, unlike Descartes and Malebranche, we believe they can and do suffer and, unlike Aquinas and Kant, we think that the animal has a right to be spared avoidable and unnecessary suffering.

One philosophical interest in animals then is that of determining human moral rights and obligations so far as our relationship with



ANIMAL MAGNETISM . . . Professor Lauchlan Chipman (left), Department of Philosophy, holds a rabbit-eared bandicoot from the Department of Biology. Metallurgical Society members, Phil Boehme (middle) and Graeme McGregor, lend their support.

the animal kingdom is concerned. (A recent essay in this area is Australian philosopher Peter Singer's *Animal Liberation* which, despite its bad logic and, in an otherwise excellent chapter on experiments using animals, some serious factual errors about thalidomide, is an important and stimulating contribution to public debate on this topic.)

I find the moral arguments for vegetarianism singularly unpersuasive however, and my own interest in animals reflects the other main reason they have attracted philosophical attention.

My interest is in whether they have beliefs; a question which is not so readily resolved in the affirmative as common sense - (and perhaps even neurophysiology) might suggest.

Recent work by the Cambridge philosopher, Ludwig Wittgenstein, and contemporary American philosopher, Donald Davidson (who may visit Wollongong during 1977), has revived the old view that there is an essential connection between belief (and hence all mental attitudes involving beliefs) and linguistic capacity; meaning roughly that if you cannot say it you cannot think it either.

The problem is a typical philosophical one, in that all the data are there before our eyes - the problem is to interpret it.

Philosophers will gather here

Philosophers from all over the world will assemble at the University of Wollongong in August next year for the annual Australasian Association of Philosophy conference.

Professor Lauchlan Chipman, chairman of the University's Department of Philosophy, said that Wollongong had been selected in preference to older and larger universities.

This indicated that Wollongong was now firmly established on the international scene as a university in its own right, he said.

Professor Chipman said, "Among those attending the conference will be major figures in philosophy from the United States and Britain.

"Great attention will be paid to the opinions of the University and of the city which visitors take home with them."

He stressed that the success of the conference was important not only for the University's international reputation but also for the city as a whole.

Professor Chipman estimated that about 160 people would attend the conference from other centres.

"There are obvious material gains to Wollongong people in this, as visitors will be spending here money earned elsewhere," he said.

Professor Chipman expressed the hope that some of the conference activities would be public to enable the community at large to gain an insight into the nature and significance of philosophical thought.

ILLAWARRA LAKE STUDY



MEMBERS of the Illawarra Lake Environmental Project Mangement Advisory Committee with a copy of their report, which was presented to the Lord Mayor, Alderman Frank Arkell, on October 8. From left: Dr. Brian Jones (Geology) Mr. Malcolm Harris (W.E.I.), Dr. Ian Eliot (Geography), Dr. Bob Young (Geography), Mr. Ern Turnbull (Deputy Town Clerk, Wollongong City Council), and Professor Ken Blakey (chairman). Photo courtesy Illawarra Mercury.

Report presented

A wide-ranging report on Lake Illawarra was officially presented to the Lord Mayor, Alderman Frank Arkell, on October 8.

Entitled *Illawarra Lake: An Environmental Assessment Project*, the 185-page report, with its many maps, diagrams and illustrations, provides guidelines for development of lake resources in the interests of the resident community.

It is a valuable guide for future land-use planning of the lake foreshore and for further acquisition of foreshore land for public leisure activities.

In their forward to the report, the Lord Mayor and the Town Clerk, Mr. Ron Eggins, say: "This report is much more than just the end result of a government grant.

"It is a document prepared by a group of dedicated experts who, because they and their families live in the area, have a special feel and understanding for their topic.

"Their efforts exceeded their normal boundaries of duty to produce this exciting, objective study.

"The Report will become a technical reference for use in assessing existing and future studies of the Lake.

"It will form the base on which we can build for the increased public enjoyment of one of the great natural assets of New South Wales . . . Illawarra Lake."

In their preface, the Chancellor, Mr. Justice Hope, and the Vice-Chancellor, Professor L. M. Birt, say: "The book contributes to the small body of Australian documentation of scarce natural resources threatened by urban and industrial developments.

"It is also an addition to the information-base of national and state programmes for the conservation of such resources."



MEANWHILE, BACK IN PENGUIN PETE'S PAPERBACK EMPORIUM: "HEY, BOSS, AN. WANTS TO KNOW HOW COME WE DON'T HAVE SUMMATOTIUS THEOLOGIA?"

Landmark for the Illawarra Region

Professor K. A. Blakey, Chairman of The Illawarra Lake Environmental Project Management Advisory Committee, presented the Illawarra Lake report to the Lord Mayor, Alderman Frank Arkell, at a ceremony at the Town Hall on October 8.

Professor Blakey's presentation statement is reprinted here.

PREAMBLE

It is an honour to represent the Project Advisory Committee and, in particular, the authors of the report: Dr. R. Young, Dr. I. G. Elliott, Dr. B. Jones, Mr. M. Harris, and Mr. E. S. Turnbull.

I believe this publication by the City of Wollongong and the University will be remembered as a landmark in the Illawarra Region.

Lake Illawarra will not become a mud heap because an organisation will be established to implement the recommendations of Bob Young, Ian Elliott, Brian Jones, Malcolm Harris, and Ern Turnbull.

BACKGROUND

Since 1970, the Illawarra Regional Advisory Council, led by Mr. King Bond, has been associated with the University in efforts to conserve Lake Illawarra and organise its fuller use by the community.

The I.R.A.C. formed a Lake Illawarra Committee which depended on three main areas of support:

1. the two local government councils, Wollongong and Shellharbour, which are responsible for land-use planning on the shores and in the lake catchment (they were represented on the regional body's Lake Committee by the two city engineers, Messrs. H. Bubb and M. Cluff), and the N.S.W. Government Departments of which the most important were Lands, Public Works, Parks and Wildlife, Fisheries, Maritime Services Board, and the Water Board.

2. citizen groups, including the Natural History Society, the South Coast Conservation Society, and boating clubs.

3. a University Working Party, which worked on a voluntary and informal basis. In the last few years it has produced a dozen reports and some hundreds of recommendations based on field studies undertaken in response to requests to the I.R.A.C. from local, State, and Federal Government agencies. In every case, their recommendations have been adopted by the I.R.A.C. and in most cases some action has resulted.

However, the main purpose of the I.R.A.C.'s committee was to work itself out of a job. It worked for the establishment of an organisation which would have sufficient resources and authority to operate on a continuous basis to conserve the lake and develop its use by the community.

THE PROJECT

Owing to the initiative of our Lord Mayor and support from Canberra, the intensive study of the Lake, proposed by the I.R.A.C. committee as a basis for its continuous management, became possible, and has now been completed.

It is a remarkable achievement. The authors combined excellence in scholarship with the common touch. They combined the theoretical and the practical - and showed that to be really practical you must have a command of your theory. Each worked as a specialist and they also came together to work as a team.

Now in the report we have the scientific knowledge on which we need to base the management of the Lake. For instance:

We know how and where limited and carefully phased dredging can safely be used to restore the circulation of water in areas like Kully Bay which are not quite dead.

We know that great benefit to all concerned can come of sensible land-use planning in the catchment area and we have a basis for such planning.

The Escarpment Park, proposed in 1971 by the Natural History Society and the South Coast Conservation Society (incorporating Macquarie Pass National Park, Kembla State Forest, and large areas which A.I. & S. has offered) would be of tremendous value as part of such a land-use plan.

Coal mining, farming, and urban developments can be reconciled with these plans for the catchment of the Lake.

A more sensible approach to zoning and rating may be possible.

ORGANISATION FOR THE FUTURE

Implementation of the recommendations of the report depends, first of all, on the councils (Wollongong and Shellharbour), which control the shores and catchment areas and have statutory powers and responsibilities for land-use planning under the aegis of the N.S.W. Government and through the N.S.W. Planning Environmental Council.

Secondly, it depends on the Department of Lands, which is responsible to the Crown for the bed of the Lake.

Parks and Wildlife, Fisheries, the Maritime Services Board, the Department of Public Works, Water Board, and the Department of Main Roads have special interests and responsibilities.

But I think the essential requirements for this organisation are the following:

1. the leadership of the kind we have had from Frank Arkell and King Bond.

2. the skill in practical application of scientific knowledge that the authors of the report (particularly Bob Young, the co-ordinator of the University group) have shown.

3. and the kind of public support necessary to provide the substantial funds required from local, State, and Federal sources.

Underlying all these needs is the matter of economics which has always been in the background in our regional activity: now it needs to be applied in more specific terms.

I believe the University can do a great deal in the future for the region and for Australia in extending the kind of collaboration we have shown some aptitude for in this project.

In this case, in particular, it appears that University members may have a big role in organising action on the part of the local government authorities and the Department of Lands to prevent irreversible damage to the Lake catchment area, the deltas on the west side of the Lake, and the approach to the entrance.

The most striking and encouraging feature of the report (apart from its achievement in answering questions, many of which have been the subject of speculation for half a century) is the practical nature of the proposals that emerge in the conclusion.

They are feasible in financial and in engineering terms, and do not require more resources than the community might be expected, in the ordinary course, to put into such a project.

The estimation in precise financial terms of the outlay required and the organisation of works is now a matter for the committee to set up.

Mr. Jim Day

Mr. Jim Day, Assistant Registrar (Student Services), University of Waikato, New Zealand, visited the University on October 13 and 14.

He is visiting all Australian universities, except Murdoch, Western Australia, and Deakin, to investigate patterns of student services and developments in this area.

Mr. Day is also looking at the degree of co-ordination among these services and the degree of involvement of Australian universities in the community.

From what he had seen, Mr. Day felt that New Zealand universities were more strongly involved in and linked with their local communities than Australian universities.

At the time of his visit to Wollongong, Mr. Day had been in Australia for eight weeks.

He still had a few more weeks to go before his Australian visit ended. On his return to New Zealand, he is scheduled to undertake a similar visit to universities there.

Mr. Day's visit has been funded through a Kellogg Travelling Fellowship.

Fishing is not a "Cinderella Industry"

By Mr. Arthur Partridge, Lecturer,
Department of Economics.

Australia's first national fisheries exposition was held in Melbourne from September 21 to 23 this year. Apart from the industrial exhibition, more than forty papers were given on topics ranging from fishing-vessel design to marketing and promotion of seafood.

More than 600 delegates attended the seminar -- an indication of the interest it generated. Moreover, though one-and-a-half hours were available for discussion each session, only half of those wishing to place questions were able to do so.

The delegates covered the full spectrum of the industry: from Federal and State politicians through government agencies, retailers, advertising agencies, processors, quality control researchers, cooperatives, fishermen, boat and equipment manufacturers, biological researchers to even some academics.

For what one paper described as the "Cinderella Industry", it would seem that at last the slipper has been fitted.

This interest in the fishing industry seems to be coming from a growing awareness of the potential of the Australian industry. Early writers on Australian fish never seemed to doubt this potential, but early confidences seem to have been undermined.

A contributing factor has been the continual stressing by biological scientists that Australia does not have the rich, fish-feeding grounds like those off South Africa, the Grand Banks, the Barents Sea, or the Humboldt current. That this is true is not questioned.

However, what is now beginning to sink home is, that with a 200-mile fishing zone, Australia will have the largest ice-free fishing ground in the world, an area bigger than her entire land mass. If only part of this is stocked at only one-quarter the rate of the "great grounds", it represents a huge potential.

High on the list of potential areas is the south-east corner of Australia. Part of this potential is associated with the market for fresh fish that exists in the area.

A paper by representatives of G. J. Coles seemed only too eager to point out the company's desire to enter this field. Their research indicates to them that such a field could be second only to fresh chicken, their current most profitable line.

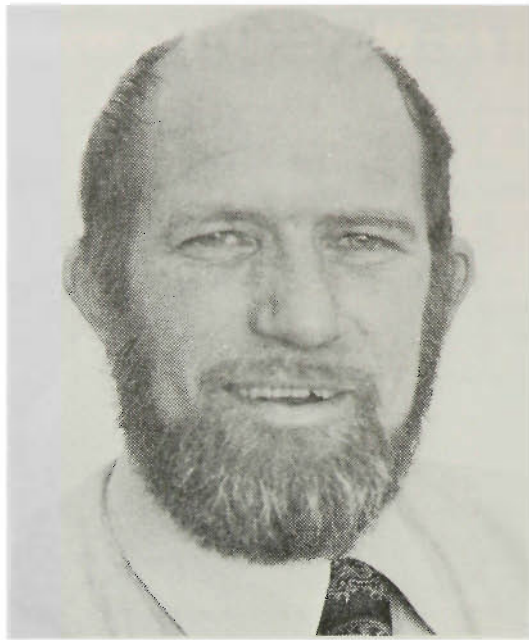
What Coles is seeking is a guaranteed regular supply. Traditionally, N.S.W. has been the largest supplier of Australian fin-fish. Upwards of 45 percent of the catch comes from the five South Coast cooperatives of Bermagui, Eden, Nowra, Ulladulla and Wollongong. The volume of fish taken has been rapidly expanding over the past eighteen months, so that frequently the catch has exceeded that which could be marketed through existing channels. With better storage facilities and greater cooperation between the cooperatives, the Illawarra and South Coast could supply the needs of a retail chain such as Coles.

The stumbling block, and an area not covered at Fishexpo, is management of cooperatives. By their nature producer cooperatives seldom abound with the skill to market the product they so capably produce. Salaried management is seldom paid enough to attract the best, and, if by chance they do, members are reluctant to raise the wage in order to retain them, even when they are producing the goods.

The South Coast cooperatives are no exception, though if one had to single out a cooperative, Ulladulla may come close to an efficiently run organisation. Nevertheless, petty jealousies, ethnic differences and, to a lesser extent, distance have inhibited the development of Illawarra and South Coast Combined Fishermen's Cooperative. The formation of such a body could only improve efficiency and raise incomes of fishermen.

Related to the above problem, Mr. R. Fowler, the general manager of the South Australian Fishermen's Cooperative (SAFCOL), presented a paper on the potential of a fish processing plant at Wollongong. Though the paper was more a plea for a golden handshake from the Government, it did examine in some detail the possible exploitation of a relatively new resource: the gem-fish.

This fish would seem, on all accounts, to be a strong contender for the market now enjoyed by some 20,000 tonnes of imported hake. It is said to be "better than the imported hake" and, having sampled both, I could only agree. On the supply side, research reports indicate that a sustainable harvest could be as high as 10,000 tonnes. (The industrial exhibition contained a stand by Baader, of Germany, demonstrating a machine suitable for filleting this type of



MR. Arthur Partridge.

fish.) Such a machine rules out the argument that very high Australian labour costs would make the gem-fish too expensive to fillet.

The probability of a Wollongong plant for SAFCOL would seem quite high, though the N.S.W. Government, at this point in time, seems reluctant to help the establishment of a foreign cooperative. The Government seems to be holding out in the hope that a local group will come forth with a viable alternative. Due to the lack of cooperation mentioned above, such an alternative seems highly unlikely.

Though not covered at the seminar, it was pleasing to learn that two Wollongong businessmen are about to attempt to exploit what I consider a highly profitable and previously untapped resource, that of the royal red prawn.

While this has been a known resource for at least five years, uncertainty has inhibited its exploitation. While this is a step forward for the Wollongong industry, local government must be criticised for a lack of initiative. These prawns, whose meat is second to none, must be shelled for marketing in large quantities. Such processing requires a factory and labour.

As it is a highly labour-intensive process, such a factory could only be considered as an asset to Wollongong. Yet, due to a lack of a positive policy towards this type of industry and a lack of understanding of the company's requirements on the part of local authorities, the plant has been located in Sydney.

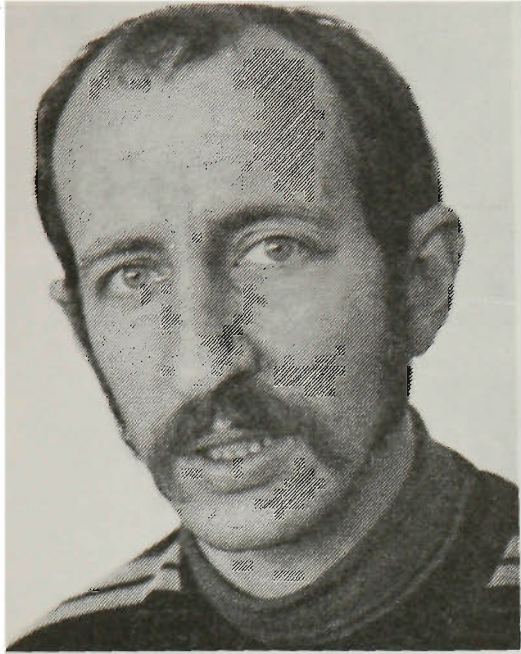
Overall, Fishexpo '76 was a great success and it showed the potential for a second major industry on the South Coast. It is my view that a combined cooperative is needed if the region is to receive the maximum benefits for its development.

The potential is such that more than one or two new processing plants are needed. A combined cooperative with an overall view may well see the optimum as a series of plants one at each of the subsidiary cooperatives. By themselves, any individual cooperative is unlikely to achieve this. A combined cooperative, with its increased command over resources could, in stages, achieve this. SAFCOL started in a small way. In order to achieve this aim, cooperatives should consider including on their boards, local businessmen with a sound knowledge of business or a particular expertise.

The recent news of a cooperative processing plant at Eden shows, though full details are not available, at least some of the cooperatives have at last recognised the need to cooperate. Though some justification can be found for locating it at Eden, these have not been clearly spelt out, nor have the arguments against alternative locations been given.

In the light of Fishexpo and some of the points raised above, one cannot help but wonder to what extent the decision, to locate at Eden, is a political one induced by companies whose best interests lie outside the South Coast region.

Combat: the myths and realities



DR. Phillip D'Alton.

"Well, in case you were wondering, that was Errol Flynn up that well-known creek without a paddle in the movie, **OBJECTIVE BURMA**, back in 1945; and, in case you have ever wondered how Errol and his mates always managed to keep up such a brave front in the face of overwhelming odds, the answer is easy: it's only a movie.

"It seems that real-life soldiers are a good bit more careful about risking their lives."

This was the introduction to a segment in the Australian Broadcasting Commission's New Society radio programme on August 24 this year.

The segment featured Dr. Phillip D'Alton, a lecturer in the University's Department of Sociology. It arose from a paper entitled, "Combat: Myth to Reality", which Dr. D'Alton gave under the Sociology of the Military section of the Sociological Association of Australia and New Zealand annual conference at La Trobe University in August.

He was asked how he became interested in the subject.

"Well, a personal interest, I guess, starts when you are a kid and you start reading war comics and war books and watching war films, and everything seems lovely; and the image of the military seems to be a traditional one, which says that everybody fights, everybody's brave; everybody identifies with the country; everybody identifies with the army; but when you start to look at the reality of combat, as opposed to this mythological approach, you begin to realise that a whole range of these things just is not supportable from the evidence.

"It's not necessarily a conspiracy on the part of the people who write as traditionalists; but rather it's that they also are victims of what, I guess, you could call express beliefs. This idea that soldiers are, in fact, roles: that all they do when they are in the army is perform as soldiers and, therefore, there are always characteristics that they should have which makes them good soldiers, rather than seeing them as a whole person who is also a father, or a lover, or a son, or somebody who doesn't want to be where he is, or who wants to get back to civilian life and so on.

"The point about the myths that exist is that they cannot be seen as separate items. I mean, you could say, for argument, 'all men fight', but the point that I'm trying to put forward is rather that all the components of the myth come together to form a sort of closed circle of explanation - a way of defining combat, which leads you

from one point to the other; a link in a whole closed circle chain, so that whatever you pick up leads you to all the other things.

"For example, (it's not hierarchical, it's just one example), all men fight. It's an acceptable notion and an accepted notion within traditional literature that, in fact, everybody fights in a combat situation, unless, of course, there's some specific reason for them not functioning in that way. Yet, when you look at the reality, for instance, Brigadier Marshall was commissioned by the American Army during the Second War to investigate combat performance of American soldiers. He looked at 400 infantry companies in the Pacific and European theatres, and his conclusions were that fifteen to twenty-five percent of them actually fired their guns in action. That is just amazing, in a sense, because it is a total denial of the kind of notion that we have of combat soldiers that we've been brought up with."

Do you mean to say that three-quarters of soldiers who had the chance didn't fire their weapons?

"Yes. In the American army in the Second War context, that's exactly what Marshall's saying. I think it's not a good idea to get blinded by that kind of figure, because I think what's more significant is not so much whether that percentage is right; I don't want to argue whether it's twenty percent or thirty percent or what have you; but rather that what you're looking at is somebody who isn't involved in being the perfect soldier. He's involved in being a person. He's a real person, has real needs, and a lot of those needs and desires have nothing to do with what the army wants him to be; so it's inevitable that the kind of performance that's forthcoming is not the kind of performance that we've been led to expect by the myth.

"For instance, American paratroopers in Normandy - any paratroopers in fact - because they're elite troops, are supposed to be rough, tough he-men who always function. Well, yes and no. For example, Marshall points out that one group of American soldiers, who had landed in Normandy with all the training and everything that went before it, were supposed to advance on various objectives and, yet, when an officer came along, because they had been scattered by the parachute drop, he found three or four hundred men sitting in a field doing nothing."

Give us another part of the myth.

"Well, it's been argued that veteran troops are both more willing and more skillful than green untried troops. I mean, experience makes soldiers better. It makes them better at killing; it makes them better at performance within that kind of situation. But the thing that tempts traditionalists is, because they appear to be more able, they then equate that they are also more willing. Whereas, in fact, veteran soldiers are often even less willing to participate than green untried soldiers.

"For example, in the fighting around the Alamein positions in 1942 in the Western Desert, a new brigade of tanks was sent out from Britain. It had 104 armoured vehicles in it and it was crewed virtually by green soldiers. They charged repeatedly and were shot to pieces by the German anti-tank defences, whereas veteran troops, operating in the same area on the same day, had very few casualties and achieved the same effect. Soldiers who have fought for a while have more of a real understanding of the costs of fighting - and their behaviour reflects this awareness."

I suppose another important part of the myth is that our soldiers are more likely to be brave and so on than the enemy?

"Soldiers do die for one another, but they don't tend to die for their country. What they're more willing to die for is their own personal friends: their own immediate social group - the people that they've come to love and that they're willing to give their lives for. Perhaps, it's one of the largest evils of war, exactly that: That kind of outgoingness, that kind of willingness even to die. To share everything you've got with other people means that peace is a sort of a sterile and unexciting activity, because, within that kind of context, there's nothing in peace time that resembles it; in fact, the reverse is true. You fight against other people for things within a social context; in a war context you help them: you give them socks, you give them food; you even give them your life."

How do you react to the claim that soldiers are getting softer in democracy or under the modern conditions?

"If you look at something which is the ultimate in totalitarian kind of training systems, the waffen SS units during World War Two,

Continued next page.

COMBAT: MYTHS AND REALITIES

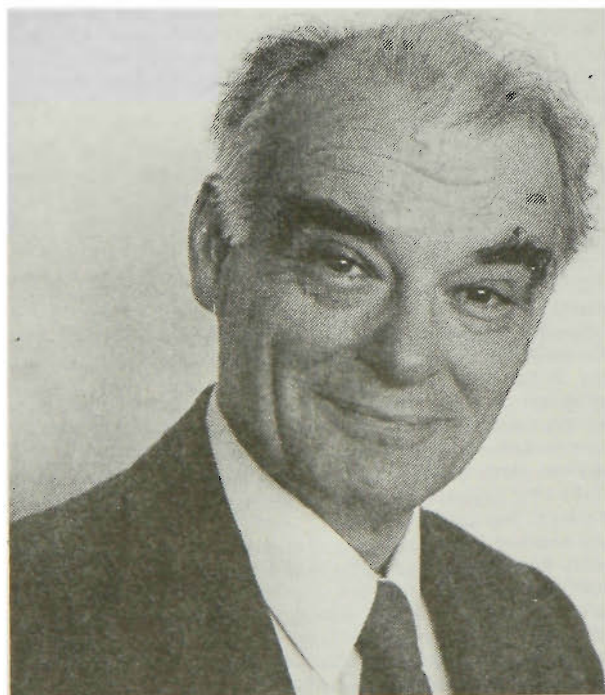
Continued from previous page.

then what you see is a change in attitudes. Soldiers can go into warfare being motivated by a whole variety of things, but once they are actually in combat it is the steady day-by-day attrition of friends being killed and injured. The knowledge - and veteran soldiers have that knowledge - that they're going to die, produces the same kind of response in soldiers from a whole spectrum, whether they're Russians, or Germans, or Americans, or Englishmen.

No, what you are looking at, when you are looking at a soldier, it is not so much somebody who is positively for something or positively against something; the thing about the twentieth century is that the majority of people who become soldiers aren't actively involved in an ideology so much as passively willing to accept being conscripted. Even at the level of green soldiers, the whole notion of the myth of combat - the notion that it's good to be a soldier within a kind of context - sustains the people to enter an army, but then offers very little sustenance to keep them functioning in a positive way; so that, therefore, it is not an argument to make that democracy is weaker than totalitarianism or weaker than, say, Bolshevism, because what you are looking at is individuals trying to come to terms with something which ideological positions don't really help them with.

"What they are is they're passive individuals; they've accepted being conscripted because they've accepted the notion the country has that kind of right. It doesn't mean that they are willing to die for king and country, or Stalin and country, or what have you; what you are looking at is somebody who is an individual, and he remains an individual."

Mr. Bruce Farrer



Mr. Bruce Farrer (above), executive officer of the Australian-American Educational Foundation, visited the University on October 14 and 15.

He spoke to staff about the Fulbright Program's present operation and the need for modification because of the foundation's greatly reduced (in real terms) income.

He said that the Board of the Foundation, which was the Fulbright authority in Australia, would meet early next month to

review the program, and the views of the universities would form an essential part of the input for that meeting.

Mr. Farrer said: "In essence, the problem is financial in that money given by the U.S. and Australian governments in support of the Program has increased very little over the last twelve years and thus the Foundation is forced to the position where it will need to restrict its Fulbright support.

"It will no longer be able to spread its grants over the whole range of institutions, disciplines and grant categories. Just what the restrictions will be and how they will be applied will be determined at the review meeting to be held in December."

He said that many useful opinions had been expressed and developed in his conversations with staff members.

"We must ensure," Mr. Farrer said, "that the Fulbright Program in Australia continues to provide for high quality academic exchange between the U.S.A. and Australia and thus serve the Program's fundamental purpose of furthering mutual understanding between the two countries."

Any member of the University who wishes to express an opinion about the Fulbright Program should write, before December, to Mr. Farrer at Churchill House, 218 Northbourne Avenue, Canberra.

Graduation

Graduation on campus in 1977

The University Council has decided that next year's Graduation Ceremony will be held on May 6 in the University Union Hall.

Two ceremonies will be held: the first for Arts and Commerce graduands and the second for Engineering, Metallurgy and Science graduands.

Graduands will be given three tickets each, and academic staff and their partners will be invited to the ceremony of their choice.

University invitations to people outside the University will be restricted because of the limited seating capacity.

Different persons will be invited to speak at each of the ceremonies.

Academic dress colours

The colours of University academic dress:

GOWNS	NUMBER	NAME	CODE
Blue	BCC 88	Sapphire	Obcca
Red	BCC 185	Cherry	Cebco

HOOD LININGS

Arts	BCC 54	Saffron	Bicca
Commerce	BCC 100	Spectrum Green	Ucbac
Engineering	BCC 208	Signal Red	Buecc
Metallurgy	BCC 44	Steel Blue	Cacib
Science	BCC 152	Platinum	Icbec

White border on
Masters & Bachelor
honours hoods

BCC 61	Stone White	Iccba
--------	-------------	-------

BONNETS (D.Sc., D. Litt.)

Black	BCC 50	Blue Black	Accib
-------	--------	------------	-------

TRENCHERS (Ph.D.)

Blue	BCC 88	Sapphire	Obcca
------	--------	----------	-------

(References taken from the British Colour Council Dictionary of Colour Standards, Second Edition, 1951).

Our Antarctic chef



University Union chef, Mr. Leon Sawyer, with a book about Antarctica during Leon's Antarctic photographic exhibition and display in the Union last month.

Leon has travelled to Antarctica twice, spending a total of twenty-six months at Casey Base as Chef to the Australian National Antarctic Research Expeditions.

Australia has four stations in Antarctica, manned by a total of eighty men. While at Casey, Leon catered for the twenty-six men stationed there.

He returned from Antarctica in February this year, but hopes to head south again one day with the Americans' "Operation Deep Freeze" so he can set foot on the South Pole.

Graduates' Assn. to be formed

The University Council has agreed that a University of Wollongong Graduates' Association should be established.

It agreed that the Association should have a constitution based on that approved by the University of New South Wales Council in March, 1973, for the Wollongong University College Graduates' Association.

The Vice-Chancellor, Professor L. M. Birt, was asked to consult with the interim committee of the Wollongong University College Graduates' Association (Associate Professor C. P. Kiernan, Mr. W. E. Parnell, Mr. G. J. Roodenrys) on any necessary constitutional changes and on the electoral and meeting arrangements necessary to establish the board and executive committee of the University of Wollongong Graduates' Association as soon as possible.

The University will provide assistance to cover postage, materials, and clerical services to help the Association to establish itself.

The Association was asked to report before the end of this year on its activities, its future plans, its constitution and any support needed from the University.

Display enlivens seminar



LOOKING at the display of brass rubbings in an A.C.S. Building seminar room last month were (from left): English Language I student, Marion Walsh; English Language II student, Elizabeth Binns; and Department of English tutor, Miranda Baker.

Original brass rubbings and a superb collection of books on the Middle Ages last month brightened an A.C.S. Building seminar room, and strains of mediaeval music filtered through to the adjacent corridor.

A group of first-year students, as part of their English Language studies, organised the display and the recital.

The strand course on Mediaeval Life and Thought attempts to provide an historical background to the Middle-English literature and language being studied. Students prepare papers for which the topics are loosely outlined; but they are encouraged to vary the presentation and emphasis of the papers according to their particular personal interests.

Marion Walsh, by her own admission one of the University's oldest mature-age students, decorated the walls of the seminar room with brass rubbings which she made in England during the war. In an accompanying information sheet, which Marion distributed to students as part of her commentary, she described the memorial brasses from which the rubbings were made as "a genuinely English art form demonstrating the particular charm of English mediaeval art in its directness and simplicity".

They are obviously more than that to her; she speaks of the personalities they represent as old friends and knows many fascinating details of their lives.

Sadly, some of the brasses were lost in wartime bombing of churches, and a recent revival of interest in rubbing has, in some cases, resulted in damage to the brass. The practice is now far more strictly controlled than it was formerly.

In the same seminar, Marion displayed some unusual books (such as *A History of Underclothing!*) from her extensive personal collection. Well-known soprano, Helen Mandl, presenting a paper on mediaeval music, illustrated many of her points in song and performed the Middle English lyric *Sumer is cum'n in*, with Pam Smith singing the second part and Janet Sampson accompanying on recorder.

The other students listened to the various papers while partaking of refreshments — which were mediaeval in spirit only!

In an earlier seminar, Kay Lloyd treated her fellow students to bread baked to a mediaeval recipe, and to a specially obtained videotape on mediaeval life.

Students regularly show their own slides on relevant topics and have even been known to make transparencies from mens' shirt boxes. The relatively informal structuring of the Mediaeval Life and Thought course seems to have encouraged many first-year language students to find their own ways of bringing history to life and has thus promoted their understanding of the subject.

STUDY LEAVE

Ideal centres in all respects

There may be study leaves that are equally enjoyable and profitable as six months at the Lawrence Berkeley Laboratory in California, followed by six months at the University of Leeds in England, but it is scarcely imaginable that any would be better.

Both centres provided superb opportunities for professional benefit, and were ideally located for enjoyment of some of the great natural beauty in the two countries.

Professional benefit derived from involvement in graduate and undergraduate training to learn of their ways of researching, providing degree courses, assessing, and organising departmental activities so as to bring new ideas to Wollongong. In this respect, the leave was eminently successful.

Non-professional activities centered on looking about - call it touring or travel or just plain sight-seeing; the name doesn't matter, it was vastly enjoyable.

California has much to offer particularly around San Francisco, commercially developed yes, but, nevertheless, demanding attention of the visitor.

We will long remember the views from our home in Berkeley, rented from a professor of Chemistry, himself on study leave in Paris from the University of California. It encompassed the sweeping panorama of the Oakland Bay and Golden Gate Bridges with San Francisco between, often in silhouette in brilliant sunsets, while at night the city lights reflected in the waters of the bay.

Driving in the Volvo station-wagon that came with the house, we encountered, in the north, forests of towering coastal redwoods and the nearby delightful Napa Valley - Californian wine country, with ordered vineyards and impressive wineries (many stops... surprise, surprise).

To the south on Highway 1, we pondered the natural forces that gnarled the cedars and sculpted the rocky coast on the Monterey peninsula. Further south is Carmel, a sedate resort unique for the absence (by local ordinance) of all that is garishly American; San Simeon dominated by the fabulous Hearst mansion; Solvang, the Danish settlement; Santa Barbara with strongly Spanish architecture.

And all along the coast are the missions settled as outposts, some now in decay - Capistrano (the swallows actually do return), some flourishing, but all inviting visitation.

To the east is the glacial valley called Yosemite - spectacular beyond belief with massive granite tors and sheer cliffs carved by marauding ice flows, now softened by pine forests, water falls and gently flowing streams. Nearby groves of ancient sequoias, not tall but gigantic at the base, stand testament to the insignificance of man in nature's realm.

There was more - Mt. Diablo proud above Berkeley; the artists' colony at Sausalito; Alcatraz (reminder of the past); the University and the Laboratory; home to none less than nine Nobel Laureates - much more, but there was also the Atlantic to cross.

The north of England contrasts vividly with western America; there is little commercial exploitation, nothing gross and nothing even spectacular, but in its own right it is vastly appealing and had there been more time to dwell in either country it certainly would have been in England.

Leeds itself is nondescript, but as the base for forays into absolutely glorious countryside it was ideal.

To the north lie the Yorkshire dales - gentle valleys following the complex of rivers that feed the mighty Humber as it churns toward the North Sea.

Nidderdale, Swaledale, Teasdale, Airedale, Wharfedale, Wensleydale and the rest are penetrated by picturesque winding roads superbly surfaced, but oh so narrow, framed by the same drystone fences and hedgerows that turn the landscape into a patchwork carpet, and dotted with a myriad of pubs that serve splendid fare, but beer that is warm to the Australian palate.

To the north-west are the vast north York moors, beautiful in isolation with only the odd farm-house to remind us that there are men of the earth nearby.

To the east is the walled city of York, encircled with daffodils in the spring and dominated by the commanding presence of the magnificent Minster. This is a city to be visited again and again and yet again.

Even more fascinating than all of this were the aweinspiring ruins of the great abbeys, priories and castles of the north, most of them

maintained and tended with parental care by the Department of the Environment.

We could only ponder the original magnificence of these structures, marvel at the architectural and constructional skills that erected them, and despair that the colossal monasteries were wantonly destroyed during the dissolution by Henry VIII.

The castle ruins were reminders of turbulent days in England's past with history coming alive for us on many occasions, but none less vivid than the day we stood at Towton, site of one of the most ferocious battles in the War of the Roses, and followed the courses taken by the Yorkists and Lancastrians some 500 years before.

Journeys further afield took us north to tread Hadrian's Wall and thence to Scotland where we lunched on delicious beef sandwiches by the bonny bonny banks of Loch Lomond.

To the west we found the lake district can be glorious even on a wet May Sunday; and to the south we ventured via the elegant walled city of Chester to Wales where the mighty castles at Harlech, Caernarfon, Beaumaris and Conwy hinted that not so long ago these lands too were not so peaceful as today.

Again there was much more - the gardens at Harrogate; the peak district to the south; the cove at Malham; Bronte country to the west and, of course, London; but I have run out of adjectives, except the one saved to last to say that it was all abso-bloody-lutely great!

Assoc. Prof. Noel Kennon,
Department of Metallurgy.

Registrar for leave

The Registrar, Mr. R. F. Stewart, has received University Council approval to undertake a study of management/reorganisation structures in associations of universities and teacher-training institutions in Australia and the United Kingdom during 1977 and 1978.

His period of leave will be for twelve months.

Study leave summary

The following academic staff are presently on study leave:

Dr. M. W. Bunder (Mathematics), Oxford, England; Madison, Wisconsin, U.S.A.; to Feb., 1977.

Mr. R. G. Castle (Economics), University of York and other visits; to Jan., 1977.

Professor A. M. Clarke (Psychology), North America; to Feb., 1977.

Professor A. C. Cook (Geology), Kansas Geological Survey, Kansas, U.S.A.; Newcastle-Upon-Tyne; Essen; Krefeld; to Aug., 1977.

Mr. W. K. Hannan (Chemistry), University of Lethbridge, Canada; to Jan., 1977.

Ms. D. L. Jones (English), Wollongong; to Jan., 1977.

Mr. E. P. Johnston (History), Uni. of Leningrad and Lenin Library, Moscow; London School of Economics; Archives of the Auswartiges Amt, Bonn & Archiv der Uni. Wien & The Staatsarchivdes Kantos, Zurich; to Jan., 1977.

Dr. E. Kokot (Chemistry), Uni. of Florence; brief visits to Unis. in Poland, Germany, Switzerland; to Sept., 1977.

Mr. M. J. Lowrey (Civil Engineering), Uni. of Bristol; Technological Uni. of Delft; Swiss Federal Institute of Technology (tentative); to June, 1977.

Dr. J. N. Mathur (Physics), U.S.A. and India; to Feb., 1977.

Dr. D. G. Montgomery (Civil Engineering), University of Sheffield, England; to Jan., 1977.

Dr. B. Walker (Psychology), Hong Kong; China including Peking, Shanghai; Great Britain; to Jan., 1977.

Dr. R. T. Wheway (Mechanical Engineering), Uni. of Birmingham; to Feb., 1977.

The following academic staff have been granted study leave:

Assoc. Prof. S. E. Bonamy (Mechanical Engineering), Uni. of Singapore, City Uni. London; Dec., 1976 to July, 1977.

Mr. M. J. Boyd (Civil Engineering), Imperial College, Uni. of London, Uni. of Strathclyde; Feb., 1977 to June, 1977.

Prof. A. D. Brown (Biology), Dept. of Molecular Biophysics & Biochemistry, Yale Uni., U.S.A. (tentative); July, 1977 to Dec., 1977.

Dr. P. G. Burton (Chemistry), California Institute of Technology, Uni. of Colorado, Boulder, Theoretical Chemistry Conference, Fredericton, Canada; Dec., 1976 to July, 1977.

Continued next Page.

Continued from previous page.

Assoc. Prof. W. H. Charlton (Electrical Engineering), Uni. of British Columbia, Canada; Imperial College, Uni. of London; July, 1977 to Dec., 1977.

Assoc. Prof. D. J. Clarke (Mathematics), Uni. of Dalhousie, Nova Scotia, Canada; Dec., 1976 to July, 1977.

Mrs. L. M. Crossley (History and Philosophy of Science), Cambridge Uni., visits to other unis. in England; Jan., 1977 to July, 1977.

Dr. P. R. de Lacey (Education), Uni. of Hawaii, Educational Testing Service, Uni. of London, Uni. of Geneva; Dec., 1976 to July, 1977.

Dr. F. M. Hall (Chemistry), Nanyang Uni., Singapore, Uni. of Bologna, Italy, Nat. Physical Laboratory, London, U.S. Geological Survey Unit, Washington, Uni. of Lethbridge, Canada; Dec., 1976 to July, 1977.

Ms. D. L. Jones (English), Wollongong; July, 1977 to Jan., 1978.

Ms. J. M. Jones (Education), North America, England; July, 1977 to Feb., 1978.

Assoc. Prof. C. P. Kiernan (History), Clare Hall, Uni. of Cambridge; Dec., 1976 to Feb., 1978.

Mr. A. M. McGregor (economics), Cornell University; Feb., 1977 to July, 1977.

Dr. D. Pearson-Kirk (Civil Engineering), Uni. College, London, Bonn, Paris, Transport and Road Research Laboratory, U.K.; July, 1977 to Jan., 1978.

Dr. F. S. Piggin (History), Oxford University; June, 1977 to Feb., 1978.

Mr. A. I. Segal (Physics), Southampton Uni., with visits to Madrid, Paris, Austria; Jan., 1977 to Jan., 1978.

Prof. R. G. T. Southall (English), Uni. of Sheffield, visits to Uni. of Bremen, FDR, Humboldt Uni., Berlin, Uni. Wermor, DDR; Jan., 1977 to July, 1977.

Mr. K. P. Tognetti (Mathematics), Uni. of Canterbury, Dept. of Scientific and Industrial Research; July, 1977 to Nov., 1977.

Assoc. Prof. R. W. Upfold (Civil Engineering), Uni. of Singapore, Uni. of Kuala Lumpur, Venice (Uni.), City Uni., London; July, 1977 to Feb., 1978.

Prof. M. G. A. Wilson (Geography), Uni. of Glasgow; Jan., 1977 to June, 1977.

Dr. R. W. Young (Geography), U.S.A., Europe; Jan., 1977 to Feb., 1978.

The Sports Pavilion-a history

The Sports Association was established in 1967 to foster and develop sport and recreation and to provide support for constituent clubs.

A long-time need of the Association has been a Sports Pavilion to service both winter and summer field sports: and plans for such a building were prepared in 1968.

A decision to proceed at that time was taken but, in the event, strict economy measures precluded building operations from being carried out.

It was not until 1974 that funds became available and the University was able to commission an architect and proceed with the project.

The pavilion, costing nearly \$170,000, is sited in what will become the centre of the campus playing fields.

It fills a most urgent need of existing clubs and it is hoped that, with the facilities it provides, more members of the University will become active participants in sport and physical recreation.

The building incorporates four men's dressing rooms; two women's dressing rooms; showers, toilets and washing facilities; a groundman's office; a club room; a committee room; a bar/kitchen; and an open-air balcony facing east over the playing fields.

New vice-chancellors named

La Trobe University has announced its next vice-chancellor. He is Professor John Fraser Scott, MA (Cantab), MA (Oxon), FIS FSS, at present pro-vice-chancellor (science) and professor of applied statistics at the University of Sussex, England.

Professor Scott will take up his appointment from July 15 next year. He succeeds La Trobe's foundation vice-chancellor, Dr David Myers, who retires at the end of this year. Professor Scott, 47, married with four children, has a distinguished and varied academic background, both in Britain and overseas.

His interests in the application of statistical methods span diverse fields from medicine, biochemistry and agriculture to industry and the social sciences.

He is a Fellow of both the Royal Statistical Society and the Institute of Statisticians and has served on both their Councils. He was editor of *Applied Statistics* from 1971 to 1975.

Professor Raymond Leslie Martin, a distinguished scientist with an international reputation in the field of chemistry, will become Monash University's next vice-chancellor.

Professor Martin, 50, will take up his appointment early in 1977. His term of office is for ten years.

At present, he is Dean of the Research School of Chemistry in the Institute of Advanced Studies at the Australian National University where he holds the foundation Chair of Inorganic Chemistry.

He is the author and co-author of more than 150 research papers and reviews. His fields of special interest include inter-disciplinary areas between chemistry/physics and chemistry/biochemistry.

Kensington archivists visit unit

A group of University of New South Wales postgraduate students visited the University of Wollongong's Archives Unit on October 21.

They are all doing the Diploma in Archives Administration at the University of New South Wales, which offers one of the few such courses in the southern hemisphere.

They were led by lecturer in archives administration, Mr. Peter Orlovich, and included Mr. Robert Kukubo, of the Kenyan National Archives, and Mr. Seng Hwee Teo, of the Singapore National Archives.

The University of Wollongong's Archives Officer, Mr. Laurie Dillon, arranged the visit.

In the morning, Mr. Dillon conducted a workshop in the arrangement and description of archival material in the University's Archives Unit in the basement of Kenny Street Parking Station.

After lunch, a discussion session touched upon: the problems confronted by archives offices in a time of economic constraint; ethnic archives; the idea of a regional university and the archival consequences; and opportunities for professional employment in universities.

Mr. Dillon said that he was particularly grateful for the interest and assistance given by Mr. Orlovich. "It is also most significant and encouraging to see archival activities in this University given the kind of professional recognition represented by this visit," he said.

APPOINTMENTS

Mrs. E. Van LEEUWEN	5/10/76	Library Assist.	Library
Miss J. E. HALBERT	14/10/76	Typist/Office Assistant	Staff Office
Mrs. S. DAKERS	18/10/76	Typist/Office Assistant	Financial Office
Dr. E. KELLERMAN	25/10/76	Research Officer	Education
Mr. R. J. TRUSCOTT	1/11/76	Research Officer	Chemistry
Mr. P. J. MAYWALD	1/11/76	Clerk	Staff Office
Mrs. G. McLELLAN	1/11/76	Librarian	Library
Mrs. M. H. JOHNSON	1/11/76	Clerk	Student Admin.

RESIGNATIONS

NIL

SPORTING NEWS

City will host Aust. team

Wollongong will host the Australian Universities Sports Association basketball team for its only game before it leaves on its west-coast tour of Canada this month.

Team manager is Mr. Hugh Brandon, the University's Finance Officer and captain-coach of the University men's basketball team.

Wally Hammonds, a final-year Electrical Engineering student and a member of the University's top basketball side, is a member of the 12-man team.

He has represented the University in the Intervarsity basketball championships for the last three years, and this year was selected in the all-star team for the second year in a row.

This is the first Australian Universities basketball team to tour overseas. It will leave for Canada on November 22.

Its guest appearance in Wollongong will be in a specially arranged trial game against the Illawarra Hawks representative side at Beaton Park Stadium on November 20 at 8 p.m.

The Hawks are expected to provide tough opposition, particularly after the team's success at the recent Australian Club Championships in Sydney where the Hawks became the eighth top club in Australia, beating such top clubs as Nunawading (Vic.) and fifth-seeded Glenelg (S.A.).

The team was clearly the best New South Wales club; its nearest N.S.W. rival finished eleventh. Altogether, twenty-four clubs competed.

During its tour which will end on December 19, the Universities team will play eleven games against Canadian university teams.

Uni 1 basketball does well

The University I men's basketball team earlier this year completed a successful winter championship series, losing only three games during the rounds, each time to South Wollongong, a team largely comprising Illawarra representative players.

The team lost to Souths in the major semi-final, but easily accounted for Trowels in the final.

University entered the grand final against South Wollongong full of enthusiasm, after finishing fourth in the 1976 Intervarsity Championships.

The grand final was hard-fought, with University having every chance of success until star Intervarsity player and Illawarra representative, Bruce Andrews, was fouled out late in the second half.

With only minutes to go, University could not hold off a strong assault from Bob Kubbinga and Gordon McLeod who led Souths to a 69-62 win.

Top scorers for University were Bruce Andrews and Dross Mangos (15 each) and Wally Hammonds (14).

All players put in a great effort and the team's spirit carried through to the end.

Other University teams also fared well in the winter championships. University I women (AR grade), Uni II women (E grade), Uni II men (AR grade) and Uni IV men (B grade) all took various places in the top five of their grades. Uni III men was the only unplaced team.

LIBRARY NEWS

Exhibition of student works

The University Library has on loan an exhibition of works by students of The Illawarra Grammar School. They will be on show in the Library foyer until the end of this month.

Honorary curator of the University's art collection, Mr. W. Peasod, in referring to the paintings and wall hangings, said: "The first reaction to the display is an awareness of the quite remarkable degree of technical competence that these young people have attained.

"It is clearly apparent that all the works are considered approaches to particular problems.

"In finding the solution to the problems, these young artists have adopted a wide variety of means; pure colour, repetitive design, movement, repose, dramatic contrast, and roughness of fibre are all elements that have been used to distinct advantage.

"The works on loan are from students in the third to sixth forms. The fact that such awareness of artistic thought and ability is present over much of the school's later years augers well for a continuation of the school's high standard in art and craft."

Fire alarm sounds warning

During a recent false fire alarm, it became obvious that students were not conscious of the need to vacate the Library when the fire alarm bell sounded, University Librarian, Mr. J.C. Hazell, said recently.

He said: "Students are advised to go to the nearest fire stairway; there are four of these at the extremities of the building.

"The external fire doors automatically open when the fire alarm bell rings so that the exit is straightforward.

"It should be noted also that the central stairway fire doors close automatically, although these can be opened manually if required by pushing in the direction of the arrow, but students are recommended to go to the normal fire exits."

After-hours telephone

The Library is accessible by telephone after hours. After 5 p.m., the Circulation Desk can be reached directly by ringing 29-7466.

Principals of Freedom seminar

Department of Philosophy chairman, Professor Lauchlan Chipman, spoke on "Liberty, Justice and Private Enterprise" in a Principles of Freedom seminar at Macquarie University last month.

The seminar was presented by The Centre for Independent Studies. Professor Chipman is a member of the centre's Academic Board.

The centre is an independent institute, formed to promote basic research and advanced study across a broad spectrum of the humane sciences.

It serves to expand the historical and theoretical knowledge, as well as applications of libertarian principles.

Its work is entirely devoted to this educational purpose and takes a variety of forms, including: seminars, symposiums, lectures and conferences; research and consultation service; and publication and distribution of C.I.S. study essays, research monographs, and new books and reprints.

Prof. O. Levenspiel

Professor Octave Levenspiel, Professor of Chemical Engineering at the University of Oregon, visited the Department of Metallurgy on October 21.

He gave a Metallurgical Society Special Technical Lecture on "Chemical Reaction Engineering" to students and staff.

The University of Wollongong

CAMPUS NEWS

Vol. 2 No. 11

Wednesday, November 17, 1976

Published regularly throughout the academic year by the Information Office for The University of Wollongong, Northfields Avenue, Wollongong, N.S.W. 2500. Distributed to students and staff, and to local, regional, state and national individuals and organisations.

Typesetting on IBM Composer by B.C.H. Printing Co., Wollongong. Text set in 8-point Univers. Photosetting (headlines), halftones and platemaking by Graphmax Printers, Albion Park. Printed in the University Printery on special offset paper.

Tony Barker Editor