

# CAMPUS NEWS

A MAGAZINE FOR THE UNIVERSITY

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## LAKE ILLAWARRA RESEARCH

# Uni. staff contribute to projects



FORESHORE of Lake Illawarra adjacent to King Street Warrawong. Photo: Kevin Donegan.

A number of community projects on Lake Illawarra have been completed as a result of collaboration by University of Wollongong geographers, geologists, chemists, zoologists and economists.

This came about through the formation of an informal, voluntary group, convened originally in response to a request from the Illawarra Regional Advisory Council. Through that Council the group has been consulted by most of the State and regional bodies responsible for the lake.

Chairmanship of the group has rotated among Dr. John Ellis (Department of Chemistry), Dr. Ross Robinson (Department of Geography), Professor Ken Blakey (Department of Economics).

Professor Blakey reports below on the group's activities in the last two years:

**LAKE ILLAWARRA ENVIRONMENTAL ASSESSMENT PROJECT.** The launching of this project was the culmination of all previous group activity. It was based on a grant of \$25,000 to the Wollongong City Council from the National Estate Programme.

The Lord Mayor, Mr. Frank Arkell, called on the N.S.W. Planning and Environment Commission and the Regional Advisory Council to join the City Council in forming a Project Advisory Committee (of which Professor Blakey is Chairman).

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## Lake Illawarra research

On the basis of a project brief prepared by Dr. Robinson, the project was organised in three parts: (a) Biotic Analysis (Mr. Malcolm Harris, botanist, Wollongong Institute of Education); (b) Lake Morphology and Sedimentology (Dr. R. W. Young- geographer, Dr. I. G. Eliot - geographer, and Dr. Brian Jones - geologist); (c) Foreshore Landuse and Environmental Design (Town Planning Department, Wollongong City Council).

During the last seven months, this research has been carried out and the report is now being prepared for publication.

**WATER BOARD WORKS.** The Metropolitan Water Sewerage and Drainage Board sought advice on a proposal for a sewerage pipeline under the lake and on ocean outfall to the north of the entrance.

The group recommended against the pipeline. It also stressed the need for planning information from the Water Board, Housing Commission, local bodies, and from private industry to establish an adequate basis for future decisions on such matters as the pipeline proposal. The Regional Advisory Council adopted these recommendations.

The Water Board and other agencies subsequently supplied, for future use, most of the information requested, and the proposal was shelved.

**SHORELINE INFILLING PROPOSAL.** The Land Board Office, Nowra, referred to the Regional Advisory Council a proposal for shoreline infilling at the Water Ski Club site, Shellharbour.

Again the group was consulted. It recommended a small clean-up operation, the construction of silt-traps, tree planting and removal of filling which was subject to erosion and has caused the extension of a muddy zone off-shore.

Further study to determine how such damage to the lake might be repaired on a larger scale and prevented in the future was also recommended.

The Regional Advisory Council adopted these recommendations. After its submission to the Land Board, it was reported that some steps had been taken towards their implementation.

**\$360,000 R.E.D. SCHEME WORKS.** Through the Regional Advisory Council the Wollongong City Council sought the University group's advice on the expenditure of \$360,000 granted by the Commonwealth Government under the Regional Employment Development Scheme for work related to the lake.

The group advised that no work should be carried out on the lake bed or natural shoreline. Specific proposals related to Lakeside Drive, Dapto, the Berkeley waterfront, a number of areas on Windang Road, Wollomai Point and Hooka Point.

They included piping of open drains and provision of general-access, passive, recreation amenities (such as grassed areas with shrubs and trees, shelters, barbecues and children's play equipment). Removal of refuse and junk, clearing of weed infested areas and provision of access and parking were also proposed.

Professor Blakey believes that the work of the informal group has been important in demonstrating what can be done by an alliance of University and community groups, even with the rudimentary organisation and minimal funds available.

But he thinks a permanent, well-organised and well-endowed organisation is needed to combine management studies with the actual management of natural resources, like those of the lake, in the public sector of regional economy.

Such an organisation, if it were kept free of bureaucratic shackles, would be able to make good use of University assistance.

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## Statistical Handbook out soon



**ECONOMICS Senior Lecturer, Mr. John Steinke**

The Department of Economics, in cooperation with the Illawarra Regional Advisory Council, is about to publish the first edition of a "Wollongong Statistical Handbook".

The objective of the publication is to provide a ready, reliable, and reasonably comprehensive source of data about the Wollongong District for people in many areas of community life—whether students, business men, trade unionists or politicians.

The Wollongong Statistical Handbook brings together results of the censuses of 1954, 1961, 1966 and 1971 for the Wollongong Statistical District and each of its constituent local government areas (Wollongong, Shellharbour and Kiama).

In addition to census material relating to population, housing and economic activity, the Statistical Handbook contains a variety of statistical series derived from annual reports of various State government departments and instrumentalities.

The handbook, consisting of 116 statistical tables, has been prepared by Economics students, employed on a part-time basis, working under the direction of John Steinke, Senior Lecturer in Economics. Funds for compilation and printing have been provided by the Illawarra Regional Advisory Council.

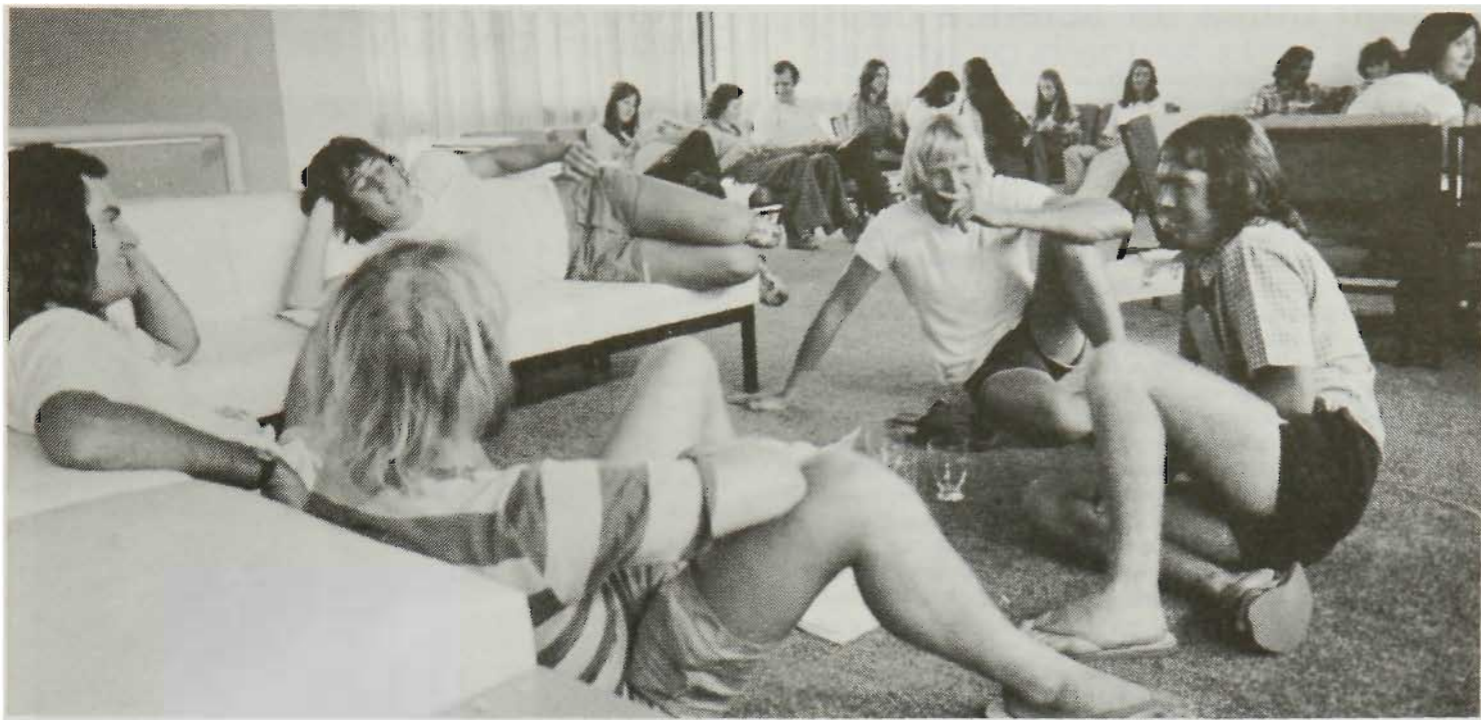
The handbook will be published in an initial edition of 500 copies in the University Printery. Copies will be offered for sale at a price designed to cover printing, but not research or typing costs—possibly at a price of \$1 per copy.

Similar statistical handbooks are being prepared for Shoalhaven Shire, and for the tablelands area covered by the Wingecarribee, Bowral and Mittagong Councils.

The Economics Department plans to publish new editions of the three statistical handbooks in the latter part of 1978, when detailed information will be available from the 1976 census.

## Student reps in Economics

As a result of elections recently conducted by the Department of Economics, the following students have been elected to the Departmental Committee: Bill Kemp, Tom Karaman (first year); Alan Watkins (second year); Sue Slaviero (third year); Jim Guest (hons./ postgrad.).



STUDENTS relax in the spacious and comfortable Southern Lounge in Stage 111 of the University Union.

## Lord Mayor to open Stage III

The Lord Mayor, Alderman Frank Arkell, will officially open Stage 111 of the University Union building at 2 p.m. on Friday, April 2, when he unveils a plaque to commemorate the occasion.

Refreshments will be served in the Union after the ceremony.

Tickets are available at the Union Office to Union members, their friends and guests.

At 4.30 p.m. on the same day the Vice-Chancellor, Professor L. M. Birt, will officially open the Sports Pavilion. The ceremony will incorporate an unveiling of a plaque to mark the event.

Following the opening of the Sports Pavilion, a barbecue will be held in the grounds.

## First art exhibition in Union Stage 111

The first art exhibition held in the new Union Stage 111 ended its highly successful showing on March 25.

It was the Union's seventh annual art exhibition presented in association with the Royal Art Society of New South Wales.

Nearly 100 works by Fellows and Associates of the society were hung on walls in the Northern Lounge and adjacent corridors.

## Regional director visits campus

The Commonwealth Department of Education Regional Director for New South Wales, Mr. G. Green, visited the University on March 3.

He met with the Vice-Chancellor, Professor L. M. Birt, and senior members of the administrative and academic staff.

Further discussions were held with executive members of the Students' Representative Council; the Counsellor, Mr. J. P. McLennan; International House Warden, Dr. T. A. Lambert; and staff of the Registrar's Division.

## The Wollongong degrees

In this special report for Campus News, the Registrar, Mr. Ron Stewart, discusses the degrees of the University.

In 1975, the University of Wollongong introduced its own degrees. Previously, as Wollongong University College, it had offered the degrees of the University of New South Wales.

The University's policy was to maintain the range of degrees inherited from the University of New South Wales (that is, Applied Science [Metallurgy], Arts, Commerce, Engineering, and Science), but at the same time to attempt to introduce the possibility of greater flexibility and wider student choice in the selection of programmes.

To this end, a standard weighting system—credit points, along with less prescriptive degree regulations—was introduced for all subjects offered for the degrees of Arts, Commerce, and Science.

The University attempted to combine the best of the practices of the Australian universities in its degree structure, its entrance requirements, and its academic government organisation.

However, after only one year, it is too early to assess the new degree programmes.

The success or failure of the University's degrees will not become apparent for many years.

And even then, what do we assess? Presumably, the general reputation of the University; however, this is an elusive quality to measure. Perhaps, demand for places is the measure.

Regarding the acceptability of the University's bachelor degrees and diplomas, the University of Sydney Appointments Board secretary, Mr. G. Kidd, during a visit here in late 1974, commented that Wollongong graduates would face no prejudice from potential employers.

He said that employers were concerned to know that a university degree was held rather than from where it came. They were also interested in the subjects taken.

The recognition of higher degrees is largely a function of the reputation of staff in the academic departments undertaking teaching and research in their disciplines.

And in this respect, the academic staff of the University of Wollongong are in the same position as their colleagues in other Australian universities.

# Tough times for science depts.

The coming year would be a difficult one for all Australian universities and, perhaps, particularly for science departments in universities.

The Vice-Chancellor, Professor L. M. Birt, said this when opening the Conference on Energy in Biological Systems at the University in February.

He said: "We are all discovering more everyday about the pressures that begin to bear on the Australian university system.

"This sort of thing has happened before, but the reasons have, I think, been almost entirely economic.

"In general terms, I think we can see a marked cooling off of enthusiasm for university studies in our society, and that view, of course, will be reflected by governments of whatever political complexion.

"Universities are faced with the task of justifying their activities, both to potential students and to the community at large.

"In this justification, science has apparently special problems. You all know about these: they are reflected in falling student interest, decline in the funding for research, and what I think can only be described as attacks on the significance and "social importance" of scientific investigation from a great number of quarters---not least from within the universities themselves.

"Now I don't pretend to know what the future holds for university science in this country or elsewhere.

"I am confident, though, that scientists must find a way to talk more widely about the nature and significance of their work than they have previously done.



THE Vice-Chancellor,  
Professor L. M. Birt

"And what's more that they will need to talk to a far wider range of audiences than they have done in the past---audiences which will differ very markedly in their ability to comprehend scientific thinking.

"I know that there are real difficulties in developing a 'popular exposition' of science---the gift of the gab is something that not all of us have, and scientists professionally often look down on the 'popularisers' of their subject because they feel that they either trivialize or falsify the concepts that they deal with.

"This is a real difficulty; but I am sure that each of us, with due regard to his scientific conscience, must come to terms with the problem of making a personal contribution to a general understanding of the value of science.

"For I think we would be deluding ourselves if we did not truly recognise that science is in the throes of a battle for survival in the esteem of society."

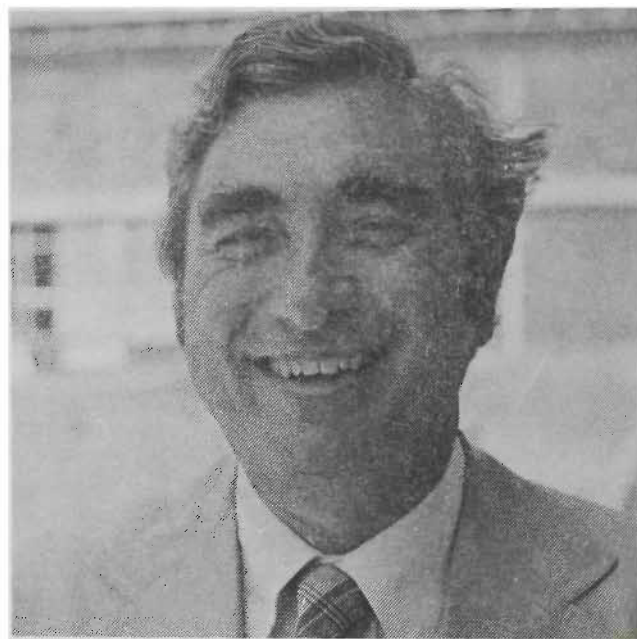
The conference was organised by the Department of Biology, which was formed last year under the guidance of Professor Duncan Brown.

It consisted of a series of symposia dealing with the following topics:

1. Conversion of solar energy into chemical energy by plants.
2. The use of this chemical energy by plants and animals for growth and other life activities.
3. The basic role of energy in maintaining the characteristics of natural environments, agricultural environments, and industrial and urban environments.

About 60 scientists took part in the conference, the first of its kind to be held in Australia. Altogether, 20 papers were presented.

# Yale biophysicist sums up



YALE biophysicist, Prof. H. J. Morowitz

An American biophysicist, Professor H. J. Morowitz, a world authority on bio-energetics, delivered the introductory lecture at the Conference on Energy in Biological Systems.

The professor of molecular biophysics and biochemistry at Yale University, he spoke on Physical Foundations of Bioenergetics.

After the conference, he summed up the proceedings for Campus News.

Professor Morowitz said: "The most striking feature of the Wollongong Conference on Energy in Biological Systems was the wide array of scientific disciplines that were focused on the all important problem of bioenergetics.

"The first day concentrated on molecular mechanisms and emphasized the problems of electromagnetic to chemical, chemical to chemical, and electrical to chemical energy transduction. The degree of molecular detail now available in these areas is particularly impressive.

"The emphasis on the second day then moved to cellular energy balance, control mechanisms in photosynthesis, and the roles of organelles in cellular energetics. The session finished with a discussion of energy production, metabolism, exchange and balance in mammals.

"The concluding day dealt with more global aspects, the energetic ecology of marine, soil, and agricultural systems. This focused attention on human problems and the conference ended with a discussion of human ecosystems.

"At all stages in the consideration of bioenergetics there are unsolved questions and the meeting served to state and clarify these questions.

"Underlying the meeting was the dominant theme of the Wollongong Biology Department that bioenergetics is one of the central unifying ideas in biology. The ability of a broad range of chemists, engineers, biochemists and biologists to communicate lent reinforcement to that idea.

"The conference moved from the molecular to the global scale, but at all levels the flow and regulation of energy served as a central concept.

"The organizers are to be congratulated on a program that left us all more learners than teachers."

## Education has Visiting Fellow

DR. PETER RICH, 36, a senior lecturer in education at the University of Otago, is spending a sabbatical year as a Visiting Fellow in the Department of Education.

He is working with Reader in Education, Dr. Philip de Lacey, and a common interest in intercultural studies.

Dr. Rich was formerly a Teaching Fellow at the University of New England, where he took his Doctorate of Philosophy in a study of the adaptation of South-East Asian students at the university.

He has diverse interests in sociology, social psychology, and general psychology.

He and Dr. de Lacey are developing plans for fieldwork in conceptual and language states of children from a variety of ethnic and national backgrounds.

With the renewal of a previous grant from the Australian Education Research and Development Committee, Dr. de Lacey is furthering studies of the cognition status of children in various locations in New South Wales, and of preschool and primary school programmes most likely to enhance their development.

Dr. de Lacey said: "This work is continuing in association with the Bourke preschool, but includes surveys of immigrant as well as Aboriginal and old Australian white children.

"Research is also proceeding on a survey of the cognition status and schooling of South Coast Aboriginal and white children.

"This project includes collaboration with Associate Professor Jim Hagan, of the Department of History, allowing results of cognitive status in the context of the area's social history.

"A study of the occupational aspirations and the occupations eventually followed of a survey of Illawarra sixth formers is also continuing."

## Canberra meeting on ALBIS Report

In September, 1975, Departments were sent notes and attachments concerning the ALBIS project of the National Library of Australia. Last month the University Librarian attended a Canberra meeting to discuss the ALBIS Report, projected in the notes already supplied.

A document entitled "Development of Resource Sharing Networks" has now been issued which constitutes an Interim Report together with Surveys in the framework of UNISIST (World Science Information System), NATIS (National Information Systems) and ALBIS.

This publication says very little that is not already known, but is interesting reading for those Departments keen on access to computer-based information services and the development of a national information network.

In the present climate of economy, it will be increasingly necessary to use resources of other centres, particularly for serials. Advice on services of ANSTEL (Australian National Scientific and Technological Library), ANSOL (Australian National Social Sciences Library) and ANHUL (Australian National Humanities and Arts Library) is available from the Reader Services Department of the Library.

## Left Book Club donations catalogued

A number of books (donated to the Library), published for the Left Book Club in England in the 1930s and 1940s have been catalogued. These can be located by looking under authors' names in the Author Catalogue, or under "Left Book Club" in the Author Catalogue, or by browsing.

Donations of publications of the Right Book Club will not be rejected by the Library.

## Senate to discuss structure

At its March meeting, the Academic Senate received a document entitled "Academic Structure and Communication within the University", prepared by the Vice-Chancellor, Professor L. M. Birt.

In receiving the document, the Academic Senate expressed concern at the current academic structure and agreed to use the Vice-Chancellor's document as a basis for discussion.

In his opening remarks in the document, the Vice-Chancellor says: "During the last 12 months or so, I have become increasingly anxious about what I see as serious difficulties of effective communication about academic matters in the University.

"I have come to the conclusion that (1) as most of the difficulties arise from our present academic structure, the Academic Senate should be asked to consider whether it shares my anxieties; and (2) if it does so, what steps should be taken to remedy the difficulties."

The Academic Senate noted Registrar Mr. R. F. Stewart's advice that the Academic Assembly at its May meeting would consider a motion proposing amendments to the Academic Senate's composition.

## Librarian's report tabled

At the Academic Senate's March meeting University Librarian Mr. J. Hazell's report on Library development was tabled.

Entitled "An Appraisal of Present and Future Prospects: A Report to the Vice-Chancellor", the report will be considered at the Academic Senate's April meeting.

The Academic Senate decided that it would visit the Library on March 31 at 11.30 a.m.

## New title for education research body

The title of the Australian Advisory Committee on Research and Development in Education has been changed to the Education Research and Development Committee.



# THE PENTAGON: BASTION OF LEARNING &



THE PENTAGON looking north-west past the Institute of Education site to the Illawarra escarpment. The roof area of the Pentagon covers more than 2200 square metres. Photo: Kevin Donegan.

"Pentagon-----a figure, usually a plain rectilinear figure having five angles and five sides-----a fort with five bastions." The Shorter Oxford English Dictionary.

The author of this article, Mr. John Scott, is the Project Architect for the construction of the Pentagon, the Social Science Building, and the Sports Pavilion. He is an associate of the Sydney firm of engineers, architects and planners: Crooks, Michell, Peacock Stewart Pty. Limited.

An architect explores many possibilities of form when designing a building.

With the Lecture Theatre (Building 20), which has five elements, the most obvious plan shape was developed-----a Pentagon.

This was done not only because the form reflects the elements enclosed but, perhaps, as importantly, for the visual impact that the non-rectangular outline has within the campus, where, in the past, the right-angle has been dominant.

The Pentagon is at the focal point of the ultimate campus development and has a major role to play in the total life of the University, for leisure and recreation as well as for formal studies.

The Pentagon's relationship with adjacent buildings, with the campus as a whole, and with the immediate neighbourhood has been carefully considered and its significance recognised.

Because of its colour, form and position, the Pentagon is the immediately discernible building from Mt. Ousley Road above the University.

The five theatres are arranged around the central foyer and meeting space which is articulated into two distinct areas, each area pentagonal, one within the other. The central of the two, which coincides with the centre of the building, is available for exhibitions and displays, having a lower, more intimate ceiling than the surrounding space.

The central area illustrates the structural and design philosophy of the building.

The concrete pentagon, supported on five, five-sided, concrete columns, is the central structural element. It supports radiating steel trusses, which can be seen in the central space and in each of the five theatres.

The trusses span all the way from the central core to the perimeter sloping columns, which are supported on the perimeter of the huge pentagonal floor slab, monolithic over the whole building.

The loads transmitted to the slab are so evenly balanced that the stability of the building relies only on five central clusters of foundation piers, each cluster coinciding with one of the five central columns.

The internal concrete block walls forming the perimeters of the theatres do not support any of the roof or external wall structure, but hold up only the concrete slabs above the residual spaces between the theatres.

The design philosophy of "honesty of structural expression", which in this case is reflected in the exposure of trusses, ductwork, wiring conduits and pipework, happily coincided with the necessity for the most economic way of providing accommodation for the 800 students and the ancillary accommodation.

The exposure of all services and structure in no way impairs the functioning of the building and has had a strong influence on the type of acoustics achieved. Many will agree that the exposure of the basic elements picked out in bright colours makes for an interesting and exciting interior.

There are three theatre sizes. Theatre 1 seats approximately 250, Theatres 2, 3 and 4 seat 150 students each, and Theatre 5 has approximately 100 seats arranged in a "horseshoe" or "in-the-round" configuration.

Theatres 1, 2, 3 and 4 have exactly the same front-to-rear profile, each being arranged in concentric segmental rows, 12 rows front-to-back, each row 200 mm above or below the next.

# FORTRESS OF DELIGHT

Access to each theatre is by door or doors from the central space and by two exit doors at the rear. Students are encouraged to use the rear exit doors for normal circulation, helping to avoid excessive crush in the central space.

The Pentagon is designed for the eventual installation of a comprehensive audio-visual system. The initial installation is limited by funds to the provision of two overhead projection screens and one vertical projection screen in each theatre, and the installation of closed-circuit colour television in Lecture Theatre No. 3.

The future installation will include CCC-TV in all Theatres, sound and projection equipment in each of the projection rooms, and the linking of the lecterns with these facilities.

A future intercom. telephone system will link the lecturers, the projection rooms and the audio visual room, enabling the technician to provide facilities to each theatre from the central audio visual room as and when required.

The lectern in each theatre duplicates the simple dimming arrangements. It will be equipped with microphones, tape and cassette recorders, intercom. telephone and pre-amp equipment. Control of the motorized screens is by wall switches only.

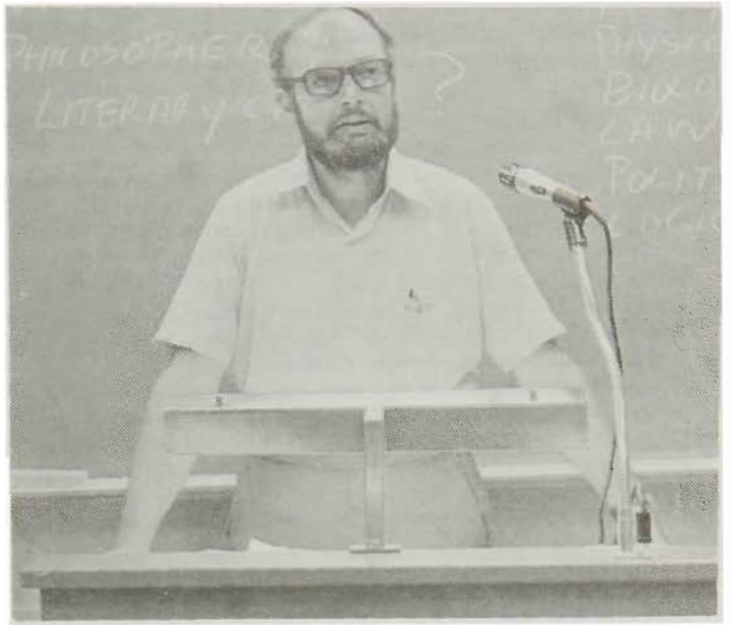
Each theatre has its own independent air-conditioning system which utilises a central cooling tower and boiler. The main supply air ducts can be seen emerging vertically on each side of the projection rooms.

Air is forced through the outlet grilles, and most air is returned to the main plant for dehumidification and warming, if necessary; but some air is induced to atmosphere through the grilles under the blackboards and is replaced by fresh make-up air.

The withdrawal of air under the chalkboards has a fringe benefit; it will help extract chalk dust, held in suspension in the air close to the chalkboards.

The external sloping walls and roof are covered with a local Lysaght product called "Marviplate". It is covered with vinyl, glued to the profile of the sheet.

The potential noisiness of such a sheeting is dampened down by insulation held tightly against the sheeting by wire netting tightly stretched across the purlins - the wire netting and the silver insulation can be seen inside the building.



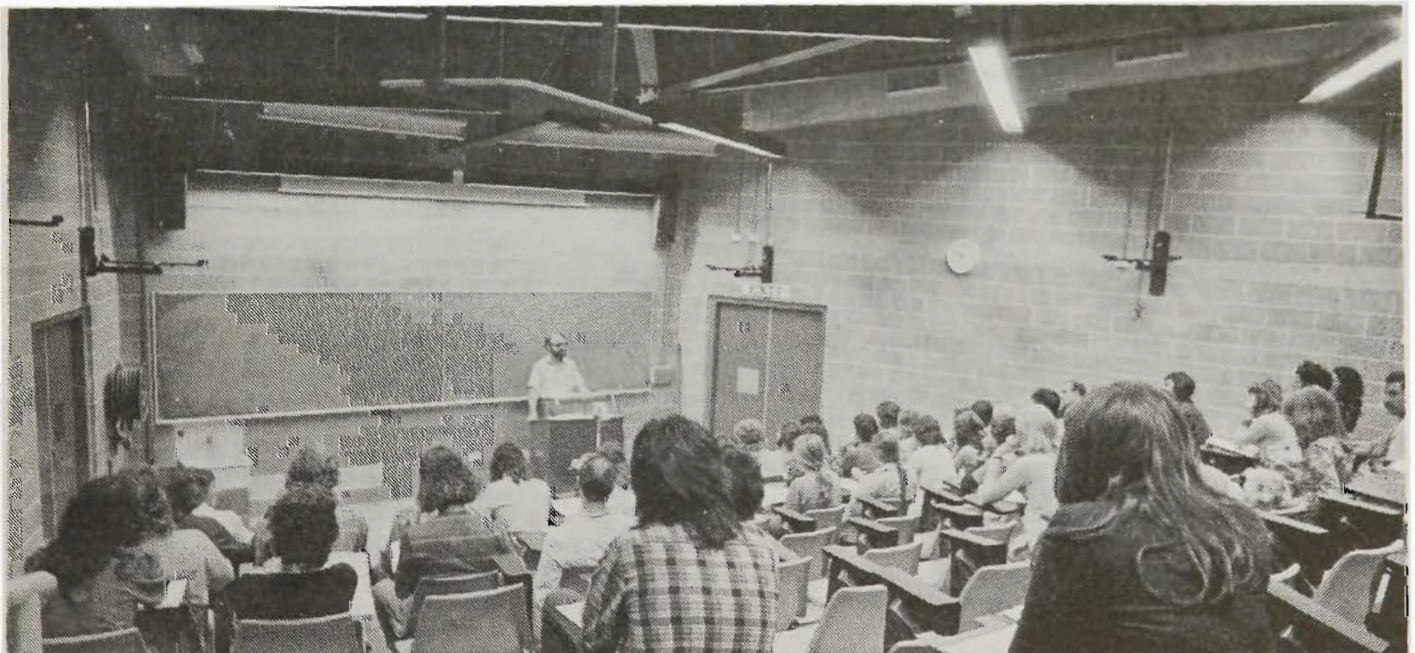
**LECTERN** in Pentagon Lecture Theatre No. 3. Like all the other Pentagon lecterns, it is rigged for microphones, tape and cassette recorder, intercom. telephone, and pre-amp equipment.

The residual spaces between the theatres are taken up by the two entrances, men's and women's toilets, preparation rooms (between Theatres 3 and 4), and stores.

A considerable amount of storage space is provided at first floor level with access through the theatres or by means of hatches in the floor.

Storage rooms are also incorporated under the rear of Theatres 1, 2, 3 and 4.

To refer to our definition at the head of this article let us hope that our Pentagon will be a Bastion of Learning and a Fortress of Delight!



**PENTAGON** Lecture Theatre No. 3 which soon will be fitted with six colour television monitors. They will be used for television lectures and for video inserts in normal lectures.

# Eng Soc is oldest active Society

The Engineering Society has the distinction of being the oldest, active society on campus.

It was formed in the early 1960's as a loose-knit group of lecturers and students, interested in encouraging social activities among themselves and increasing public interest in Engineering.

For a while, the Eng Soc flourished, only to be stricken in its prime in 1973 by a wave of apathy. At the end of that year, during which no executive was elected and no members paid fees, a move was made within the Students' Representative Council (to which Eng Soc is affiliated) to dissolve the Society.

This proved to be the cure for apathy, and Eng Soc was revived and is now more active than ever.

This can be clearly seen in the multitude of activities that Eng Soc has organised over the last year and in the number of members it has.

Eng Soc's activities fall into two categories: recurring and non-recurring.

The recurring activities include participation in the organisation of the Annual Inter-Society Soccer Cup; an annual Engineering staff versus students cricket match; and the awarding of a trophy for the best realisation of a concept in the first-year Creative Design course.

Non-recurring activities have included the organising of the Commem Week Volleyball Competition; a wine-tasting night; end-of-session barbecues; and an Orientation Week barbecue.

Other benefits Eng Soc has offered in the past include free beer at meetings, lunch-time Engineering films (in conjunction with the Dept. of Civil Engineering), and discounts at assorted stores.

One major activity, which failed to eventuate due to lack of sufficient numbers, was a proposed Hunter Valley vineyard trip, which had to be cancelled at the last minute. It is hoped that this will not happen to the proposed Kangaroo Valley trip this year.

Last year the society's membership was just under 100; this is renewable on April 1. The new membership for this year has already reached 30.

The annual general meeting for 1976 was held on March 22, and the following office-bearers elected: president, D. John Harrison; vice-president, Carlo Bertoldi; hon. secretary, Greg W. Butler; hon. treasurer, Arnold McLean; executive members, John Dovicin, Nguyen Thoi, Murray Robinson, Peter Groch; publicity officer, Phil Milton.

For enquiries concerning Eng Soc, see Carlo Bertoldi (Engineering Bldg., Rm. 126) or Arnie McLean (Engineering Bldg., Rm. 108).

## Psychology Society

The Wollongong University Psychology Society was formed in mid-1975 by a group of interested second-year Psychology students.

The society's aims are the furtherance of Psychology together with an active participation in social issues.

Activities include lectures by guest speakers, films, discussion groups, theatre outings, barbecues and parties.

In 1975, the society presented guest speakers who spoke on a wide variety of topics chosen for their social and psychological interest.

Topics included prison simulation studies, a psychologist's view of China, rape crisis centres, and self-help drug communities in the Illawarra District.

Theatre groups saw "One Flew Over The Cuckoo's Nest" and "Happy Birthday Wanda June" at the New Theatre. These live presentations proved to be extremely popular and many more such outings are envisaged.

In 1975, the society suffered certain organisational difficulties which, with increased expertise, will be overcome in 1976.

As the society is new and has no history, its function and role within the totality of the university are still in a state of flux.

The society hopes to offer a wide and varied program of activities in 1976.

The only criterion for membership is an interest in psychology (i.e. an interest in people). Membership is available to students and non-students alike at a nominal fee of \$2 per annum.

## Books published on symposia

### Australian Black Coal

The proceedings of the international symposium on Australian Black Coal—its Occurrence, Mining, Preparation and Use, held at the University in February last year, have been published in a book of the same name.

The papers in the book cover the discovery, mining, and use of Australian black coal.

The major sections deal with the geology of Australian coal basins, the properties and resources of coals, mining methods, coal preparation, and the technology of coal utilization.

The authors come from a wide range of disciplines and experience, from both Australia and overseas.

Collated, edited and designed by Professor A. C. Cook, of the University's Department of Geology, the hard-covered book has a striking appearance.

The dust jacket is black and white with gold lettering; the end papers reproduce a photomicrograph of a foundry coke taken in reflected light.

A total of 1000 books was printed. The symposium was organised by The Australasian Institute of Mining and Metallurgy.

### Blast Furnace Aerodynamics

The papers and discussions from the international symposium on Blast Furnace Aerodynamics, held at the University in September last year, have been published in a book of the same name.

More than 90 delegates, including 28 from overseas countries, attended the symposium, which was organised by The Australasian Institute of Mining and Metallurgy (Illawarra Branch).

Twenty-five full and four shorter papers were presented and discussed. All discussions were tape-recorded, transcribed, and sent to participants for checking.

Symposium convenor, Associate Professor N. Standish, Department of Metallurgy, collated and edited the discussions and papers, for printing in book form.

The book of 230 pages, section-sewn with hard cover and dust jacket, was ready for distribution on December 5, just 10 weeks after the symposium. A total of 500 books was printed.

Of the papers presented, five full and four shorter papers were presented by Associate Professor Standish and his students.

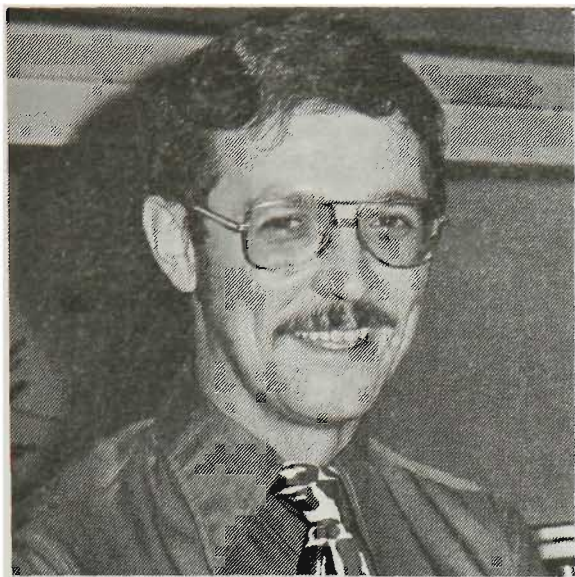
The topics cover both the aerodynamic theory and a wide range of operating practice and experience in many countries of the world.

This is the first time that a book dealing with the specific subject of blast furnace aerodynamics has been produced, making it an invaluable reference for all who are engaged in this field at both research and practical levels.

The University's Department of Metallurgy enjoys a world-wide reputation in iron-making research; and The Australasian Institute of Mining and Metallurgy, through the various symposia held in Wollongong over the years (and all on the University campus), has done much to bring world recognition to Wollongong.

# FOCUS ON PEOPLE

## Caterer is rich in experience



**CATERING Manager, Mr. Burkhard Mielke**

The University Union's catering manager, Burkhard Mielke, 29, who assumed duties on March 15, has had experience in the hotel and catering industry in Canada, Europe and New Guinea.

Born in Velbert/Rhineland in West Germany, he emigrated to Canada in 1955 and became a Canadian citizen.

In Canada, both during and after school years, Mr. Mielke worked in a number of hotels mainly as a busboy, food waiter, barman and bar supervisor.

After gaining senior matriculation for university entrance, he joined the Canadian Armed Forces under the Officer Candidate Program. After two years, he transferred to the Supplementary Reserve and attained the rank of lieutenant.

In 1967, he went to Europe and undertook a course in hotel administration and management at the Hotel School (Hotelfachschule) in Bad Reichenhall, Bavaria, West Germany.

Run by the Bavarian Hotel Association, the school is under the direct control of the West German Ministry of Culture and Tourism. It is designed mainly for building leaders in the German hotel industry, but a number of foreign students are permitted to attend.

Mr. Mielke spent his practicals (each of three months) in the best hotels in Southern Germany.

In 1969, he graduated with a Diploma in Hotel Administration and Management.

After leaving the Hotel School, Mr. Mielke worked with the Swiss National Railways in their restaurant in Basle, Switzerland, as purchasing officer and controller.

After fourteen months, Mr. Mielke came to Australia and obtained a position as cost and budget analyst in the food services department of Qantas. This job carried the responsibility of complete budget and cost control for the 42 different stations which cater for Qantas throughout the world.

In September, 1972, Mr. Mielke and his wife went to Papua New Guinea where they managed the Banz Hotel/Motel until June, 1974. His last position before coming to Wollongong was hotel controller for Talair Pty. Ltd. and its subsidiary company, Talco Hotels Pty. Ltd.

At Wollongong, Mr. Mielke is responsible for the Union's catering service, including function catering.

DR. JILLIAN BRADSHAW, 33, newly appointed Lecturer in the Department of French, is specialising in the "civilization" area of the department's teaching. She gained her Bachelor of Arts and her Doctorate of Philosophy degrees from the University of Western Australia, where she was on the staff of the Department of French Studies for four years.

During her career, Dr. Bradshaw has studied in Great Britain and France, and last year did further postgraduate study at the Ecole des Beaux-Arts in Paris. She has wide interests in the area of French Studies. Her doctorate treated the novels of one of the most outstanding modern French writers, Michel Butor; and, in recent years, she has been teaching courses on French political and cultural history. One of Dr. Bradshaw's particular interests is the relationship between literature and painting.

DR. DAROL CAVANAGH, 36, newly appointed Lecturer in the Department of Education, obtained his Bachelor of Arts degree from the University of New South Wales, his Master of Education degree from the University of Sydney, and his Doctorate of Education from State University of New York. His doctoral thesis was entitled, "A Curriculum Design Deduced from a Model of the Middle School Child".

From 1960 to 1972, he taught in New South Wales high schools and technical colleges, including nine years at Berkeley High School; from 1972 to 1974, he was a part-time lecturer in monetary policy at Niagara Institute of Applied Arts and Technology in Ontario, Canada, and a graduate assistant in the Department of Curriculum and Instruction at State University of New York. In 1975, he taught at New South Wales high schools.

At Wollongong, Dr. Cavanagh is co-ordinating practice teaching in the Diploma in Education and lecturing in Economics Method. His special areas of interest are curriculum design, adult and teacher education, and emerging adolescents. He is a member of the New York State Association for Supervision and Curriculum Development and a member of the South Pacific Association for Teacher Educators.

MISS PAM HENDERSON, 22, newly appointed Tutor in the Department of Geography, obtained her Bachelor of Arts degree (Hons) from Macquarie University last year. At Wollongong, she is teaching first-year physical and human geography. Her special area of interest is the quaternary history of the Sydney Basin. In the summer of 1974-75, she undertook archaeological research in the New Guinea Highlands.

MR. KEN KIMBER, Administrative Officer, Estate Division, received a Distinction Pass in Section Five at the 1975 end-of-year examinations of The Institute of Chartered Secretaries and Administrators.

The Institute announces Distinction Passes only where the marks have attained a minimum high standard covering the whole section. Section five covers three subjects: Company Law and Secretarial Practice Part 2, Meetings - Law and Procedure, and Secretarial Administration.

Mr. Kimber, who holds a Bachelor of Economics degree from the University of Sydney, was one of three to gain Distinction Passes in Section Five. He was recently elected to the Union Board of Management.

MR. LINDSAY PORTER, 23, the Department of Philosophy's first research student, obtained his Bachelor of Arts degree (Hons) from the University of Melbourne last year. He gained first place and was awarded the Hastie Exhibition in the Pure Honours School of Philosophy.

His research interest is Kant's transcendental deduction of the categories (which is an investigation of Kant's arguments to show that people must be born with some concepts not derived from experience in order for any experience to be possible).

Mr. Porter, who is tutoring part-time in Philosophy 103, will be supervised by Philosophy Departmental Chairman, Professor Lauchlan Chipman, who also began his philosophy studies at the University of Melbourne. Mr. Porter's main outside interest is steam trains.

## Legal and family planning aid



**LEGAL Aid Officer, Mr. J. McC. Geddes**



**FAMILY Planning Association Clinic Sister, Ms. Barbara Lee.**

Two community services are now available on campus for all members of the University of Wollongong.

Officers from the Australian Legal Aid Service, Mr. J. McC. Geddes and Mr. B. J. Cameron, are visiting the campus each Tuesday between 4 p.m. and 5 p.m. and are offering advice on such matters as hire purchase, accidents, rent and leasing, traffic fines, and other legal matters.

A representative from the Family Planning Association, Ms. Barbara Lee, is visiting the campus each Wednesday between 10.30 a.m. and noon.

She is offering contraceptive advice and is acquainting people with the services of the Family Planning Association.

Both these services are operating from the Counselling Centre, which is also co-ordinating them. Members of the University are urged to use these services.

## Impressions of Switzerland

Dr. John Ellis, a senior lecturer in the Department of Chemistry, was one of ten members of the academic staff who were on study leave last year. In this article, he relates some impressions of Switzerland.

My choice of Switzerland as the country in which to spend my study leave was based firstly on the reputation of the institute where I worked and secondly on a desire to experience living in a foreign-speaking country.

E.A.W.A.G. (the Swiss Federal Institute for Water Resources and Water Pollution Control) proved a highly stimulating place to work. The research facilities were excellent, and there was a constant stream of visiting scientists, most of whom gave a seminar during their visit.

Few countries can function as well as this one. The Swiss reputation for honesty, hard work and efficiency is well deserved. The railways run on time, the postal service is very efficient, strikes are almost non-existent and everybody seems to have been properly trained for the job they do.

For example, on one occasion I ordered a circuit diagram from Metrohm's factory (80 kilometres distant). The telephone call was placed at 4 p.m. one Tuesday. The diagram was despatched through the normal post and was on my desk at 9 a.m. the following morning!

The cost of living in Switzerland is very high, especially land and housing (\$30,000 per room near a large city), so the vast majority of the population live in rented apartments. Job mobility is quite low by our standards, partly due to the costs of moving. Apartments are rented unfurnished and this means electricity wires poking out of the ceiling, no floor coverings etc.

Our own apartment at Greifensee (20 kilometres from Zurich) was very comfortably furnished. We settled in early and were surprised how quickly we acquired a large circle of friends.

Jenny and I were amazed at how much English was spoken which was just as well for us. Although we had been learning German for 6 months beforehand, we found the Swiss dialect incomprehensible.

It is only a spoken language however, so at least we could read notices, newspapers etc. and converse haltingly in high German which the Swiss can, of course, also speak. It was quite usual for a Swiss person to speak at least three languages plus their dialect. Lectures at E.A.W.A.G. were given either in English or high German.

Our children enjoyed themselves very much. Andrew (then 6½ years old) went to the local school and quickly learned to understand the local dialect. When winter came he learned to skate and to ski. Both he and Benjamin (2½) enjoyed tobogganing near our apartment.

We returned with many happy memories; friendships made; the scenic splendour of the country (especially an autumn trip to Zermatt); walking in the mountains; breathtaking cable-car trips.

Especially clear in our minds is the cleanliness of the country and the almost total absence of litter----a lesson for Australia, as is their success in correcting pollution of Lake Zurich and other lakes used for recreational purposes.

## Student Services section renamed

The Student Services section of the Registrar's Division has been renamed Student Administration.

# SPORTING NEWS

## News from the Rugby Club

Pre-season activities have left the Rugby Club in a reasonably sound position compared with that of last season; however, the need for more players and active supporters cannot be overemphasised.

To be reasonably confident of completing the season with a respectable record in all three grades, it is essential that the club begins the competition with at least sixty players, plus active supporters.

We were unsuccessful in reaching the semi-finals of the pre-season competition; but our win over Shoalhaven and sound performances against Teachers College and Waratahs have earned us our opponents' mounting respect.

Three games in particular stand out.

In the second-grade game against Teachers, our team was down 14-0 in the final minutes, but got on top to score two quick tries (by Kevin Walter and Ian Garratt) for a final score of 14-8. This same team 45 minutes later resumed the field and held a fresh Waratah seconds to a 16-0 win.

First grade, after going down 18-0 to the fitter and faster Teachers side, came back 45 minutes later with a solid game against Waratahs, who had had an easier early game against Shoalhaven.

This was probably the match-of-the-day, producing fiery clashes in the forwards and good backline movements resulting in tries. Waratahs won 14-7, after the lead changed three times and with Waratahs scoring on the final bell.

The club's annual general meeting was held on April 18. Office bearers elected are: president, Brian Noone; secretary, John Wren; treasurer, Simon Drew; club captain, David "Snow" Brewer; registrar, Cliff Johnson; and publicity officer, George Cullen.

Two Committees were also elected and have already organised successful money-raising and social activities. They are the Social Committee, chaired by Phil Waugh, and the Intervarsity Committee chaired by "Snow" Brewer.

The most important position in the club, that of choir master, went to Phil Waugh over Simon Drew after a disputed vote.

The outgoing secretary, Simon Reavley, had earlier the same day been elected to fill a casual vacancy on the Sports Association executive.

The new Sports Pavilion has already proved a major asset to the club because of its suitability for social gatherings, both after the games and at other times. The building has great potential and our club intends using the facilities offered to the fullest extent.

The main competition starts on Saturday, April 3. We are drawn to play Campbelltown at Campbelltown Showground.

We are committed to field three grades in this competition, and I again call on all interested parties to make a big effort to get themselves and others along to training and, in particular, to be at Campbelltown Showground at 1 p.m. on April 3.

Transportation will be leaving the Sports Pavilion at 11.30 a.m. that day for those players and supporters requiring transport.

Yours in Rugby

Brian Noone, President.

## Uni. boat in sailing regatta

A fleet of eleven boats, including a University of Wollongong boat, contested the Inter-Varsity Sailing Regatta in Brisbane in January.

The Wollongong crew comprised Bruce Ham (skipper), Andrew Wilson and John Pink.

The first race proved to be a preview of the final results.

The University of Queensland boat opened an impressive lead on the first two legs and kept this margin to win from the Universities of Sydney and New South Wales.

On the final beat to windward, the Wollongong boat appeared to have fourth place covered, but a remarkable display of boat speed from the University of Adelaide boat decided the issue.

In the second heat, which was sailed in a stronger breeze, the major placings were similar.

A better performance by the Wollongong crew, after the calamities of trapeze-wire breakages and spinnaker tangles, enabled it to finish fourth.

The third heat saw the Wollongong boat relegated to seventh place in frustratingly light breezes.

The turbulent effects of cyclonic Queensland weather forced the last two heats to be cancelled, thus leaving the Wollongong boat fifth overall.

At the Reps' meeting, it was decided to support the introduction of the 420-Class boats for the women's competition, replacing the high-performance Lightweight Sharpie Class.

The Sailing Club is grateful to Ted Pink for the loan of his boat.

Congratulations go to Queensland who not only gave a demonstration of superb sailing, but also arranged a most enjoyable Inter-Varsity.

B. W. Ham

Team Manager & President

## Sailing provides peaceful interlude

Sailing does not fit into the popular conception of what a sport should be. It is this deviation that the University of Wollongong Sailing Club wishes to stress.

It is true the sailing club has its dedicated enthusiasts for competition.

However, sailing also provides a peaceful interlude from the tension of lectures and assignments.

On the club's many social sailing days, members (regardless of experience) are taken out sailing, either to relax under sail power or to learn the simple mechanics of how to handle the sails and other equipment.

This makes sailing especially suitable for those who have insufficient time to endure the rigours of training so common with today's sporting culture.

The sea, however, is fickle; so the safety aspects of the water are keenly impressed on members.

Enquiries about membership and club activities should be made to the Union Office.

## Table tennis needs players

All table tennis players (beginners to first-graders) are invited to join the University Table Tennis Club.

You will play in the Illawarra Table Tennis Association's Winter and Summer Competitions; so join the club and form a team now for the next Winter Competition starting April.

You could also play in the Inter-Varsity team in Melbourne this year (if you are selected). The University team reached the semi-final last year and finished fourth out of eleven universities.

We showed them what a small university like ours can do and we intend to do the same again this year - with your support and dedication.

We need more members. For beginners, free coaching will be organized during the year, if you want to take it seriously and play the game the right way.

Prospective members should contact N. Q. Thoi, Room 103, Engineering Building, or at International House, Room E-57.

# Radio Club reaches the world



**RADIO Club member, Mr. Arch Cartwright**

Formed in 1973, the University of Wollongong Radio Club began operations in the old VL2UV transmitter trailer near the Engineering Workshops.

The Postmaster-General's Department radio inspector in Wollongong granted approval for licensed club members to operate under their personal call signs.

The transmitting equipment belonged to foundation members, Mr. Trevor Barnett, a senior technical officer, and the late Mr. Kevin Brady.

In 1974, the club was granted its own call sign—VK2WO, subject to supervision by Mr. Brady and Mr. Barnett—both licensed operators.

Nearly every day at lunchtime, club members used the radio equipment to contact other operators in universities and colleges.

Apart from the Australian contacts, members also established regular contact with operators in the United States and Japan.

Contacts were also made with several South-East Asian countries and with New Zealand on a lower wave length.

Later, the equipment was moved from the trailer into the Mechanical Engineering Laboratory.

The Club attempted to affiliate with the University Union to obtain support, but was unsuccessful because of restrictions under the Wireless Telegraphy Act and lack of suitable accommodation.

At the present time, the club is operating at lunchtime mainly on VHF bands. Operators include Mr. Stan Brooks, assistant (Engineering Services), and Mr. Arch Cartwright, senior technical officer, Department of Mechanical Engineering, both of whom recently sat for their amateur radio licences.

They are supervised by the club's licensed members.

The main VHF channel used is Channel 6, which is the Robertson repeater at Macquarie Pass. It extends coverage of mobile and low-power stations from Ulladulla (in the south) to Foster (in the north).

In the near future, the club again hopes to operate regularly on high-frequency bands for its overseas contacts.

## Kevin Brady dies suddenly

Mr. Kevin Brady, 45, a technical officer in the Department of Mechanical Engineering and a ham radio enthusiast, died suddenly on March 8.

Mr. Brady, who played a leading role in founding the University's ham radio club, will be sadly missed.

With other club members, he established regular contact with ham radio operators in colleges and universities in Australia and overseas.

These contacts have done much to inform others about the existence and activities of Wollongong University College and the University of Wollongong.

## Running around the campus

On Sunday, May 9, the Wollongong University Outdoors Club and the Orienteers of Wollongong will combine to hold an orienteering event in the university grounds and surrounding bushland to give interested people a taste of what orienteering is like as an athletic sport.

Orienteering has been described as like car rallying, using your feet instead of a vehicle: runners use a map and compass to choose their own best route around a course, finding control markers placed at points in the area, in the shortest possible time.

Lyndal Dennis, Eleanor Fairbairn, and Helen Wheelan from the Library have prepared a special orienteering map of the area and will be organising the May 9 event.

The event will be a so-called "score event" in which competitors have an hour to find as many control markers as possible. (Controls have differing points value according to difficulty and distance. Points are deducted for finishing outside the hour.)

Competitors may start anytime from 9 a.m. to 1 p.m. and the starting point is under the fig trees near the Union. Maps will be provided at the start; compasses can be hired.

Further information can be obtained from Lyndal Dennis (Library) or Jim McLennan (Counselling Centre).

## Probe on drugs information flow

In August last year, the N.S.W. Parliament appointed a Joint Committee of the Legislative Council and the Legislative Assembly upon drugs.

The committee is anxious to ascertain whether the flow of available, current, scientific information, concerning the pharmacological, psychological and social effects of drugs in common use in N.S.W., is adequate to service all sections of the community.

If any person believes there are ways in which the information flow can be improved, the committee would welcome such advice, preferably in writing.

Further information can be obtained from the Clerk to the Committee, Parliament House, Sydney, N.S.W. 2000.

The University of Wollongong

# CAMPUS NEWS

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Tony Barker ... .. Editor  
Beatrice Henderson ... .. Production Assistant