"Ageing"— Sir Macfarlane's lecture topic

Ageing was the prologue to death, and the meaning of that sequence had worried men ever since they began to put their thoughts in writing, and probably for a million years before.

Joint Nobel Prize winner for medicine, Emeritus Professor Sir Macfarlane Burnet, said this when delivering the inaugural lecture in the University of Wollongong Lecture Series to mark University Year. His topic was "Ageing".

Sir Macfarlane said: "The elixir of youth was a favourite myth of the Middle Ages, and in seeking it the alchemists laid the first shaky foundations of pharmacology and chemistry. Philosophers and, more recently, biologists have been moved to interpret the nature of ageing; and though much has been written, not much of it has been helpful. Someone, whose name I have forgotten, said that many elderly scientists of past competence have done no good to their reputations by writing about the process of ageing. "I may be no exception, but have published two books, three papers, and given a dozen lectures around the world on the topic in the last twelve months. I shall continue to take the risk."

Sir Macfarlane told the audience that he was speaking "essentially as a human biologist": "A medical education is probably a good way to come into human biology," he said, "and ever since I graduated I have been concerned with one aspect after another of the biology of man, infectious disease, immunity, genetics, and now ageing. "I make no excuse for having taken human ageing as the major scientific interest of my old age".

The Vice-Chancellor, Professor L. M. Birt, in introducing Sir Macfarlane, said: "Sir Macfarlane comes to us in the first year of the life of the new University of Wollongong. "This year marks the culmination of a period of dedicated work and careful planning by many members of the local community — indeed, the University's foundation has united "town and gown" in a most effective collaboration.

Without the persistent enthusiasm and effort of the people of the Illawarra, of the local parliamentary representatives, of civic, industrial and union organisations, and of our colleagues in the University of New South Wales, there would, in all probability, be no university in Wollongong today. "That there is such a university is, in my view, a most important milestone in the continuing development of both Wollongong and the Illawarra."

Professor Birt said that Sir Macfarlane came to the university "as a member of the Australian scientific community who has received universal recognition as a great scientist".

He said that Sir Macfarlane graduated in medicine in 1922 and embarked on a career of medical research. He joined the Walter and Eliza Hall Institute for Medical Research in 1928 and in 1944 became its director.

He conducted major studies on poliomyelitis, influenza virus, psittacosis, and Murray Valley encephalitis. At the same time, he continued his interest in immunology and in the cause of a number of chronic diseases, such as chronic active hepatitis and pernicious anaemia.

In 1957, he switched the emphasis in the Institute from virology to immunology, an emphasis which led to the identification of these chronic diseases as "auto-immune" diseases.

Professor Birt said: "Broadly speaking, this identification involved the concepts that the basis of the immune response was the body's capacity to recognise self, a self which is genetically determined. "In the auto-immune diseases, there is a breakdown in the body's ability to tolerate its own tissues; it no longer accurately recognises self." Professor Birt said that Sir Macfarlane had contributed much to the fields of biology — to virology, immunology, genetics, biochemistry and micro-biology, and through them to clinical medicine. His personal contribution to the Australian community has in every respect been outstandingly important," he said.
Leading writer delivers second Uni. Year Lecture

One of Australia’s leading literary figures, Mrs. Judith Wright McKinney, delivered the second University Year Lecture in the Main Lecture Theatre on May 21.

Her subject was: “Charles Harpur: A Radical Writer in a Time of Change”.

The lecture traced the life and times of Harpur whom Mrs. Wright McKinney described as “the first poet of his country”, the first to attempt to relate in poetry the experience of living in Australia and the Australian environment.

Mrs. Wright McKinney holds honorary Doctorates of Letters from the Universities of Queensland and New England, and is a Fellow of the Australian Academy of the Humanities.

She has two abiding interests: writing and conservation.

Perhaps the development of both interests stems from her childhood experience of the Australian countryside on the New England Tableland.

Her home today is at Mount Tamborine, south-west of Brisbane.

Mrs. Wright McKinney went to school in Armidale, and read English and other subjects at the University of Sydney.

Her first book of poems, The Moving Image, was published in 1946. Soon after, she was awarded a Commonwealth Literary Fund Scholarship, which was repeated in 1956. In 1964 she won the first of the Britannica Australia Awards for Literature.

She has been a lecturer in Australian literature at various Australian universities.

Her writing career is long and distinguished: as an Australian poet and story writer, as a historian of Australian rural development, and as a commentator on and analyst of Australian poetic development.

In all her work, she deals with the experience of being an Australian, of living out life in the Australian environment.

And in all her writings, she expresses her conviction of the abiding significance of the natural world.

Professor Austin Keane has been appointed part-time Deputy Vice-Chancellor for a term ending on December 31, 1977.

Professor Keane, who has been Professor of Mathematics since October 1, 1964, will deputise in the Vice-Chancellor’s absence and will assist the Vice-Chancellor generally in the discharge of his duties.

He currently is Chairman of the Department of Mathematics and a member of the Academic Senate, the University’s supreme academic advisory body.

Professor Keane has had extensive experience in administration. He was acting Warden of Wollongong University College for about four months in the latter half of 1970.

He was the first chairman of the College Board of Studies and served in this position from 1968 to 1970.

He was chairman of the College Higher Degree Committee from its formation in 1968 until July, 1974, and head of the Division of Physical Science which included the Department of Mathematics, Physics and Geology.

In addition to these positions and membership of various other College committees, Professor Keane was a member of the University of New South Wales Professorial Board and of three of its sub-committees. He was also on the Council of the Institute of Marine Science.

He is a foundation member of the Australian Mathematics Society and a member of the Royal Society of New South Wales (of which he was president in 1960).

Apart from considerable experience in teaching and research, Professor Keane also has an impressive record in supervising postgraduate students.

Since October, 1964, when he took up duties at Wollongong, the Department of Mathematics has had 18 M.Sc. and nine Ph.D. graduates. Of these, Professor Keane has supervised all but one of the Ph.D. candidates and more than half of the M.Sc. candidates.

Four of his early Ph.D. candidates have reached Professorial or Associate Professorial rank and include the Professor of Mathematics at the University of Papua New Guinea and Associate Professors at Sydney and Newcastle.

He has written 80 papers and reports and a book entitled, INTEGRAL TRANSFORMS. He has edited four books: COMPLEMENTARY MATHEMATICS, in which he is also a contributor, MATHEMATICS METHODS, SPECIAL FUNCTIONS, and NUMERICAL COMPUTING.
Honorary degree of Doctor of Science awarded to Professor Gray

The University of New South Wales bestowed its highest honour on Professor C. A. M. Gray, Professor of Civil Engineering at Wollongong, during the 1975 Graduation Ceremony at Wollongong Town Hall.

Professor Gray received the honorary degree of Doctor of Science in recognition of his distinguished services to the University of New South Wales while Warden of Wollongong University College.

He was Warden from early 1962 when the College opened until late 1973 when he resigned that office.

This is the second time a University has honoured Professor Gray. Between 1954 and 1962, he was Professor of Engineering at the University of Malaya, now the University of Malaysia.

He established and developed the University’s Faculty of Engineering. In recognition of his services, the University conferred on him the title of Emeritus Professor and the Government of Malaya created him an Honorary Commander of the most distinguished order of the Defender of the Realm.

In accepting his honorary degree, Professor Gray told a packed Town Hall: “Many people have been involved in the work of developing a University College into a University.

“In acknowledging my work as Warden, the University Council is also acknowledging their efforts, many and varied as they have been.

“Taken altogether, these efforts have brought us today — from 1952 when 30 graduates had their degrees conferred on them at the College in a ceremony splendidly organised by the College’s first executive officer, Mr. Tony McNamara — to this year’s ceremony in the Town Hall and 205 graduates.

“I know that everyone involved feels the effort was well worth while. I do — even though, many times, I had been cast in the role of sparring partner extraordinary for innumerable pressure groups.

“I always believed that the parent body of the University of New South Wales realised and accepted the fact that full university status would eventually come to Wollongong.

“And it was this basic understanding which helped most to carry me and, with me, the College and its staff through some very difficult times.

“There was other support, too — strong and vigorous support — with vision and determination, which came from the City of Wollongong itself and spearheaded the desire of the citizens to have a multi-university of their own.”

During his address, Professor Gray paid special tribute to Dr. F. M. Mathews, the late Mr. A. A. Parrish, and the late Dr. Dick Oddy for their strong support “which ensured the steady progress of the College”:

“We must recognise also the debt we owe to the University of New South Wales,” Professor Gray said. “The rapid growth of the academic standing of the College has been possible only because of the assistance and guidance that has come from Kensington.

“I hope and trust this close relationship in the academic field will continue. It shall in Civil Engineering.”

A total of 205 degrees was conferred at the Graduation Ceremony, the last to be conducted by the University of New South Wales in Wollongong. In addition, 55 candidates received Diplomas in Education.

Vice-Chancellor and Principal of the University of New South Wales, Professor Rupert H. Myers, delivered the Occasional Address.
In the community, an American expert in family and community medicine said when he visited the University on May 20 and 21.

He is Professor Herbert K. Abrams, Professor and Head, Department of Family and Community Medicine, University of Arizona College of Medicine. During his visit, Professor Abrams met with the Vice-Chancellor, Professor L. M. Birt, and with members of the Wollongong medical community and the University's academic staff.

Professor Abrams, who is in Australia as a consultant on health education to the Australian Hospitals and Health Services Commission, said: "Increasingly, we are training medical students in the community; we are getting them out of the ivory tower environment. They had done nothing to improve the health of the community around them, and simply had used people as subjects in teaching.

Professor Abrams said that medical schools were now taking a leading role in improving the environment.

A medical school brought, to the various aspects of medical science, many scholars who were genuinely interested in relating to scholars in related sciences, particularly the natural sciences.

These medical science scholars also had relationships, or the potential for relationships, with scholars in the humanities. Only in recent years had medical schools begun to relate to the universities in which they operated.

Previously, they had operated in an ivory tower environment. They had done nothing to improve the health of the community around them, and simply had used people as subjects in teaching.

Professor Abrams said that medical schools were now taking a leading role in improving the environment.

**Sax Report recommends on health education, services**

In April this year, a document entitled, "A Report on the Integration of Health Services and Health Education Facilities in the Illawarra Region" (the Sax Report), was tabled in the Australian Parliament.

Prepared by a Hospitals and Health Services Commission working party, the Sax Report recommends — among other things — the establishment of a planning team to report on "a possible future medical school at Wollongong University" and on "the means whereby the education of medical students might be related to the tertiary education of psychologists, social workers, health administrators and nurses".

It also recommends that the Australian Government should agree to provide resources for the addition, in the Illawarra Region, of health facilities and services of the type envisaged in the 1972 Wollongong proposal for a medical school.

The Wollongong submission therefore differs from traditional medical education in which, during the early years of training, students are taught pre-clinical subjects in classrooms and laboratories in the universities, followed in later years by clinical training in teaching hospitals.

A medical school at the University of Wollongong would make a distinctive and important contribution to the range of medical education in Australia.

Its primary goal would be to train doctors able to enter general practice in the community as part of health-care staff working through private practices, community health centres, and hospitals.

The University's Academic Senate has established a Working Party to report on the Sax Report and on a proposal for a Diploma Course in Medical and Health Education.

**Tony Nutt elected first S.R.C. president**

Science III student, Tony Nutt, is the University's first elected Students' Representative Council President.

At the elections for the University's first S.R.C. on April 21 and 22, he defeated the only other presidential candidate, Greg Butler.

Tony took over the Wollongong University College S.R.C. presidency in September last year when the then president, Wylie Sims, resigned.

As the sole student representative on the present University Council — which before January 1 this year was the College Council, he has played a major role in presenting student opinions to University administrative and academic policy-making committees.

Other positions filled at the elections are: vice-president, Kerrie O'Hanlon; honorary secretary, Cheryl Brown; honorary treasurer, Debbie Leonard; A.U.S. secretary, Edmund Esterbauer.

Engineering representative, Rodney Reilly; Humanities representative, Kerry Pedersen; Social Science representative, Sue Wilcox; general representatives, Elizabeth Keenan, David Llewellyn, Philip McNerney, Kerrie Oldfield, Wylie Sims, Cathie Strong; postgraduate representative, Glen Mitchell.
Drama will cover more than live theatre

By Professor Ray Southall

Drama, in most people's minds, is synonymous with live theatre, but here in the University of Wollongong it will encompass many of the other ways in which attitudes, beliefs and opinions are expressed by moving figures.

It will, of course, include "literary" drama of the theatre, cinema and television, but it will add new areas of theoretical interest (e.g. the theory of roles and the theory of games) and new areas of practical interest (e.g. children's play, drama as a method of learning and as a means of therapy, the uses of film as a medium of information and instruction).

The scope of drama as a subject of study will recommend it to University students in all other subjects and to students from the Institute of Education and the Technical College, which will provide facilities for the maintenance and servicing of these areas, including a small film library and hopefully computer access for simulation games.

The concept and design of drama have been tested in a local survey conducted on behalf of the Performing Arts Working Group by Hassell Partners and Tom Brown. The survey revealed that there is overwhelming support in the region for the services and facilities that the new Department would make available.

Interest in drama, particularly in the area of television or film, is growing very rapidly in schools, many of which are already engaged in film making (and hold their own film festival during the summer) and also have their own closed-circuit television systems.

The survey demonstrated that the facilities of the new Department would be saturated immediately by demand.

In its efforts to meet the demand, the Department would be actively recruiting its future intake directly from the schools and this intake would consist not only of pupils but also of teachers wishing to improve their understanding of the media now available to them. In its first year of operation, therefore, the Department should be providing both a first-year course and a diploma course in drama.

The sophisticated audio-visual equipment, studio facilities and the academic horizons of the Department of Drama make its arrival an exciting prospect.

It will provide the services and create the expertise essential to an understanding of the importance which dramatic activities are assuming in the advancing technologies of art, science, commerce, industry and education.

Music growth dramatic on South Coast

By Abe Segal

During recent years, there has been a dramatic growth in musical activity on the South Coast.

This development has occurred without direct participation of the University, apart from giving encouragement and support.

At present, there is a Musical Society in the University, affiliated with the Union, whose concerts are presented each week during the academic year. Next October, this Society will attempt its first major project, in the form of a Festival of Music.

Through its affiliation with the Union, the Musical Society can provide a model demonstration of the Union's important role in bringing all elements of the University to a common meeting point.

Extending this to the community at large, it is envisaged that the development of music within the University will bring with it a healthier rapport between all sectors of society, with a consequent enrichment in the quality of life for all of us.

Looking ahead, one can anticipate that, with the introduction of a Department of Music in the University, there will become available to the entire South Coast added opportunities to enjoy the many facets of musical experiences.

In particular, people with musical talent will be offered additional opportunities to develop as performers, composers and scholars. Music is a noble art, worthy of the highest dedication. The environment and attitudes within a University are ideal for the practice and study of music in many forms.

There are four related aspects of a University Music Department. These are: academic study and research into what has already and is being achieved by the great masters; teaching the art and craft of musical performance; presentation of music performances, available to the entire community; and creating new music.

The personality, talents and interests of the Foundation Professor of Music will no doubt determine which of these areas is given major prominence during the early history of the Department.

The development of music within the University will occur in parallel with the establishment of a Centre for the Performing Arts, adding appreciably to the University's role in improving the quality of life of the community in which we are embodied.

As the above picture materialises, the future will see an even greater growth in South Coast musical activity, with the University playing a major role.

City Council visits Uni.

The Lord Mayor, Alderman Frank Arkell, and Wollongong City Council aldermen and officials paid an official visit to the University on April 17, 1974.

They met with University personnel in the Council Room (left) to discuss community-University interaction, including computer services, medical education, migrant studies, performing arts, and pre-schools.

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Students protest during Kim Beazley's visit

Students protested over the Tertiary Education Assistance Scheme (T.E.A.S.) when the Federal Minister for Education, Mr. Kim Beazley, visited the University recently.

They were concerned about delays in the processing of T.E.A.S. applications and about "certain anomalies existing in the present means test".

Mr. Beazley was at the University to address a symposium for principals, counsellors and careers advisers from South Coast Area schools, plus University students and staff.

The symposium was entitled "The School and the University of Wollongong between Now and 1990".

The photographs show students sitting in the corridor outside the Physics Lecture Theatre, where Mr. Beazley was addressing the symposium, and putting their case to Mr. Beazley inside the Physics Lecture Theatre.

University enrolment tops the 2000 mark

At the Universities Commission's audit date of April 30, the University of Wollongong had achieved a 1975 enrolment of 2135 against a planned enrolment of 1945, the Registrar, Mr. R. F. Stewart, said recently.

He said: "The planned enrolment is a figure that the Universities Commission, in its Fifth Report, estimated the University should achieve in 1975."

"The withdrawal rate this year has dropped 22 per cent when compared with last year's percentage."

"The achieved enrolment augurs well for the expected growth of the University through to 1978 when an enrolment of more than 2500 is planned."

"A pleasing feature of the 1975 enrolment pattern is the greatly increased in-

take of new students: 630 undergraduates (as against 681 in 1974); 58 higher degree students (38 in 1974); 95 Diploma in Education students (62 in 1974); and 38 miscellaneous students (27 in 1974).

"And a remarkable rise in the percentage of new fulltime students from 49.1 in 1974 to 56.8 this year added further to the enrolment levels of individual subjects. The effect of this increase on the percentage of all fulltime students (old and new) was that this rose from 47.3 in 1974 to 52.2 in 1975."

"The largest numerical increases in bachelor degree course enrolments have occurred in Arts (189), Commerce (89) and Engineering (64). The number of students enrolled for Metallurgy has fallen slightly."

"The percentage of female students has gone up from 22.8 in 1974 to 25.2 in 1975, due to the sharply increased intake of new female students (up from 27.7 to 32 percent)."

"The median age of all students in 1975 is 23 years (21 for fulltime students). The reason for the increase in this age, from 22.7 and 20.6 respectively in 1974, is the introduction of a Special Admissions program this year for non-matriculated candidates aged 21 years and over."
Book is first on urban Illawarra

The first book to be published on urban aspects of the Illawarra Region should be available late this year.

Entitled Urban Illawarra, the book examines particular aspects of urban development and structure in the Illawarra. The result of five years research, the book's six parts contain a total of 18 papers, its editor and one of the contributors is Dr. Ross Robinson, senior lecturer, Department of Geography, University of Wollongong.

Apart from contributions by Wollongong research students and staff, Urban Illawarra contains papers by staff of the University of Sydney, Macquarie University, the University of Melbourne, the Reserve Bank of Australia, and the Royal Military College, Duntroon.

The foreword is by Professor M. G. A. Wilsen, Chairman, Department of Geography, University of Wollongong.

Part I examines urban area Part VI. the historical growth and present population and structure of the physical environment. Part II examines the socio-economic structure of the area. Part VI, the conclusion, looks at planning proposals for the year 2000. Urban Illawarra is being published by Sorrett (Melbourne).

Another Blacksmith is born — Does success run in the family?

By Gary Hayes

By the time this edition of the RECORDER is in your hands, the second edition of another University publication will be available in the bookshops for the price of $2. The new addition to the Blacksmith family will probably surprise many; for example, the fact that the new infant has two heads (the main issue and the special supplement) is a development that was unexpected — even by the parental editors of the (now double-barrelled) magazine.

Blacksmith Two, is or are, Siamese Twins. But, after all, they are separate individuals. A good thing, too. What with half as many copies of the supplement as there are of the issue proper!

Joining apart, the reader has a lot to look forward to in this 1975 number. Backed by the University (through the University Year Committee), the editor was able to attract contributions from a wide range of writers and artists.

Big-name Australian writers reacted with great interest to the editor's request for their work, and so did other university members from all round the country, as well as writers from Wollongong, including several new writers getting their first hearing in the pages of Blacksmith.

While it is not quite a Who's Who of Australian writing, the list of contributors, especially the poets, includes many of the most respected as well as the most exciting craftsmen in Australia at the moment.

Here the reader will find poems by Hope, Murray, Wright, Campbell, Dobson, Tranter, Harwood and Wallace-Crabbe, as well as poems by many others. Michael Wilding and Kris Hemensley, two of the most exciting of the new-wave Australian short-story writers, are also contributors.

Blacksmith is more than that, however; its pages also see the work of Wollongong and Sydney artists, as well as the work of artists from Newcastle and other parts north.

Susan Turier, who studied here, and Patricia Holley, who recently held her second exhibition in Wollongong, are joined by Christopher Bishop, who has just completed a highly successful exhibition of his drawings and etchings at Bondyion's Gallery. The etching "Bamboo", which Chris sent to Blacksmith, is one of the works that attracted most attention in his show.

Blacksmith also enters a new field with David Vance's music: a song composed by David for words from Don Marquis' Archy and Mehitabel. This song was given its first performance just a few weeks ago, in the University Union.

Many people throughout the university have identified themselves with the success of the second Blacksmith.

And, while the English Department must come first in this, staff members from the Administration have been quick to offer their assistance. The poems can be best seen in the cover, which was designed and executed by Mike Scott.

Now that the magazine is out, I can only ask for a continuation in this support from fellow members of staff. Buy it! — not only because it is a worthwhile memento of the University's coming-of-age, but also because it is worthwhile in itself.

• Gary Hayes is Editor of Blacksmith and a tutor in the Department of English.

A popular everyday sporting activity on campus is volleyball (above). The playing area is adjacent to the University Union. Photo shows action during an impromptu game.

Elections are also a "popular" activity at Wollongong. Many have been held this year. The photos (left) show students receiving balloting papers in a recent election.
Experts advise on ceremonial matters

Two experts in university ceremonial matters visited the University between May 19 and 21.

They are Mr. A. lan Perrier, a Brisbane architect, who was heraldic consultant to Griffith University, and Mrs. E. J. Cooper, of Adelaide, who designs and manufactures academic gowns for many Australian Universities.

During their visit, they met twice with the University's Ceremonials Committee, which is charged with the responsibility of advising the University Council on all matters relating to colours, armorial bearings (see footnote), motto, and the design of ceremonial gowns and degree habits.

They met with academic staff and with S.R.C. and Sports Association representatives, and addressed a meeting of the Academic Senate.

Along with Mr. Peter Almond, Deputy Registrar, N.S.W. Institute of Technology, they participated in an open meeting where they displayed samples of their work, spoke about their work, and exchanged ideas with students and staff.

Mr. Perrier has designed armorial bearings for Cardinal Freeman, of Sydney, Archbishop Cahill, of Canberra-Goulburn, and Archbishop Rush, of Brisbane. He has also designed them for schools and golf clubs.

He designed the armorial bearings for Brisbane's new university, Griffith, and advised on the choice of all heraldic regalia such as flag, pocket badges for blazers, and neck ties.

He said that would recommend that, when the University of Wollongong had decided upon a coat of arms, it should engage a graphic design consultant to provide a total system of graphics for the University. Based on the coat of arms, this system would provide the University with "a corporate identity".

Included in the system would be campus signs, logos for university vehicles, and university stationary.

Mrs. Cooper has designed academic dress for the University of Adelaide, plus Flinders, La Trobe, Griffith, Murdoch and James Cook Universities.

She has also designed academic dress for colleges of advanced education, plus ecclesiastical, civic and legal robes.

Mrs. Cooper believes that she is the only person in Australia who designs gowns specially for universities.

The gowns are manufactured through her company, Ecclesiastical and Academic Outfitters, Medindie, South Australia.

FOOTNOTE: The armorial bearings of a person or an institution normally comprise: the shield and its surface decoration; the helm; the mantling which hangs from the helm; the crest which is placed on top of the helm; the motto which normally appears on a scroll below the shield; and supporters which appear on each side of the shield and support it.

Of these elements, the most significant is the shield. The other elements are not essential in the display of armorial bearings, although the crest is generally included.

It is anticipated that the Ceremonials Committee will recommend on all ceremonial matters to the first meeting of the Chancellor's Council later this year.

Observatory's History is older than University's

By Glen Moore

The University Observatory is operated by the Department of Physics. Its history can be traced back far before the University's establishment.

Several telescopes are housed in the Observatory, located west of Mt. Keira, including a 460 mm reflector. This instrument is built around a mirror which was ground by George Galver, one of the most famous mirror-makers of his time.

The telescope and the dome which houses it were designed and built almost entirely within the University.

The Observatory is presently conducting a photographic survey and is undertaking studies into stars which periodically vary their brightness.

As well as being a valuable research tool, the Observatory is an important teaching aid. Courses in astronomy and astrophysics are held at all levels after first year and their popularity is growing every year.

Many astronomical events take place unpredictably and the Observatory is usually prepared to cover these events which, in the last few years, have included solar and lunar eclipses and, of course, Comet Kohoutek.

• Glen Moore is a tutor in the Department of Physics.

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Computer contributes significantly to development of University

By Computer Manager, Geoff Hamer

With what reliability can the course of chemical reactions be predicted? How many students will enroll at the University in 1985? How to catalogue and control the circulation of 200,000 books in the University Library? How can twice the number of ships be accommodated at Port Kembla harbour?

How to select and write offers to successful high-school students applying for university enrolment? What do the residents of Shellharbour see as their most important recreational needs? How to monitor the effectiveness of the home visits of the Community Health Service nurses?

These are a few of the projects to which the University's computer is being applied. Since last August over a hundred users have acquired their own computer account number and are able to "sign-on" to one of the eight, high-speed, on-line terminals on campus.

Instructions are input to the computer from a key-board, as on a standard type-writer, and within seconds the computer replies on to the TV-type screen above the key-board.

The speed of the computer enables it to handle many such terminals and a wide variety of work simultaneously.

The more conventional batch mode of operation, via punched cards, is used for jobs with large volumes of data and for "number-crunchers," those long scientific calculations that were not possible, except by approximation, in the days before electronic computers.

Thirty-four student courses, covering scientific, social and commercial aspects of computing and most popular programming languages, FORTRAN, BASIC, SIMSCRIPT, ALGOL, ASSEMBLER, COBOL and PLI, are also underway.

Eight on-line teletypes are available for students to develop their programs and a card-punching service is available for batch input.

The computing facilities per student are greater at Wollongong than at most Universities and this fact enables a healthy practical element of computing to be injected into all relevant courses.

The University is also looking forward to the future and outwards to the community. A project team is already studying the needs of the next decade and planning developments to meet them.

It is certain that the penetration of electronic data processing methods into schools, offices and small businesses will continue to grow.

Already several feasibility studies are underway for external users to install their own terminal equipment, connecting by telephone line to the University computer.

The University welcomes this development and sees it as part of the role it has to play in the community.

The University’s Professor of Computing Science, Juris Reinfelds (above), has developed an interactive computer language for scientists who are not computer programmers.

Professor Reinfelds took up his appointment in this new Chair on May 1.

He developed the language, called SIGMA (System for Interactive Graphical Mathematical Applications) at the European Organization for Nuclear Research (CERN) in Geneva.

For two years before coming to Wollongong, he was with CERN as a Visiting Scientist on leave from the University of Georgia, U.S.A.

He collaborated with CERN’s Data and Theoretical Physics Divisions on the development of SIGMA.

Professor Reinfelds said: “SIGMA is intended for scientists who are not computer programmers.

"It gives them direct access to computers so that they can communicate their problems to the computers in their own terms.

"Its major characteristics are: automatic handling of multidimensional rectangular arrays as basic data units; interactive operation of the system, and extensive graphical display facilities."

His special research field is interactive computing on small and large computers with special emphasis on numerical mathematical applications.

Professor Reinfelds, who is 39, was born in Riga, Latvia, and came to Australia in 1951 with his parents and his younger sister. He completed his leaving honours at Adelaide Boys’ High School (1953), and his B.Sc. and his Ph.D., in mathematical physics, at the University of Adelaide.

Newly-constituted Academic Senate has first meeting

The University’s newly-constituted Academic Senate met for the first time on May 21 in the Council Room (below).

Elections this year filled the 18 seats as set out under the Academic Senate’s new structure requirements.

Composition is: seven professors elected by and from professors; eight members elected by and from the Academic Assembly; and three students elected by and from students.

The Vice-Chancellor, Professor L. M. Birt, is a member ex-officio and is also president.

The Academic Senate is the University’s supreme academic advisory body and advises the University Council on academic policies and on academic aspects and implications of any other matter within or of relevance to the University.

It is one of the few almost entirely elected bodies of its type in Australian Universities. It is also small in size: most other Australian universities have large professorial bodies. At the May 21 Academic Senate meeting, Professor A. C. Cook was elected chairman.

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The emphasis will be on understanding the manner of living systems, distinctive in courses available elsewhere in Australia.

The majority of first-year lectures are currently given on closed-circuit television using a series of tapes from the University of Sydney Institute of Technology. This practice will continue during 1975, after which the department proposes to introduce a new first-year course of its own design. This course will also be general and broadly based.

With the establishment of a Department of Biology, second-level subjects have been introduced as the next step towards a full course in biology. The second- and third-level courses will be basically different from biology courses available elsewhere in Australia. The emphasis will be on understanding biological functions, especially those functions which are uniquely characteristic of living systems.

Living systems are unique and highly distinctive in the way they use energy, the manner in which they are regulated, and the way they generate, store, and transmit information. Accordingly, the courses will comprise three strands, with a substantial degree of interaction, dealing with energy, regulation, and communication. Each strand will begin at a fundamental biological level, namely that of metabolism and anaerobic reactions. The theme in every case will then proceed through cells and their functions, to multi-cellular organisms, thence to ecosystems and in some cases to societies, with particular reference to human society.

Most biological phenomena can be recognised as examples of the principles covered by the three strands. Many processes, often treated as highly specialised events, can be set into an overall biological perspective in the context of the proposed courses. For example, cancer, virus infection and the immune response of animals reflect aspects of the transfer of biological information.

Because of the fundamental role of energy in all biological processes, including regulation and communication, thermodynamics is set as a prerequisite for second- and third-level courses. This is currently given at second level by the Department of Chemistry as "Physical Chemistry for Biologists".

The other non-biological second-level prerequisite is the "Introductory Systems Theory", a new course offered by the Department of Electrical Engineering for the first time in 1975. This has been included to provide a sound basis for dealing with systems aspects of all the strands, especially biological regulatory processes.

The first strand to be implemented is "Energy", the first two units of which will be given this year in the second session. Next year two third-level units should be added to complete the strand and one of the second-level units, "Energy I", will be advanced to first session.

The department also hopes to introduce the "Regulation" strand in the second session 1976, but this will depend on what staff appointments are made in the new year.
French expands the University’s cultural and intellectual horizons

The development of the University of Wollongong took a significant new turn in 1975 with the establishment of the Department of French.

French is the first foreign language to be taught at the University and its introduction is evidence of the University’s desire to broaden its cultural and intellectual horizons. The new Department, situated on the first floor of the Engineering Building, has an initial staff of three: Professor Barry Leal, Mr. Brian McCarthy and Dr. Jillian Bradshaw, with a tri-lingual secretary Mrs. Ute Janisch.

Dr. Bradshaw, who is at present engaged in post-doctoral research at the Ecole des Beaux-Arts in Paris, will take up her post later this year and introduce into the Department courses in French civilization.

During 1975, first-year courses in French language and literature were being offered to a total of 28 students. Next year a beginners’ audio-visual course will be introduced as well as normal second-year courses.

Though library and audio-visual facilities are at this stage well below a desirable level, the Department is, with the help of the French Embassy, laying the foundations of a basic library collection and putting to good use the language laboratory that the University possesses.

Students with tape recorders of their own are encouraged to borrow cassettes for practice at home. French magazines and current French newspapers are also available for students to peruse and borrow.

Aware of the importance of encouraging language study at the secondary level, the staff of the Department has shown itself anxious to establish contact with schools and teachers in the Illawarra. Already French students of one local high school have visited the University to meet staff members, and Professor Leal was recently elected vice-president of the Illawarra branch of the Modern Language Teachers’ Association of N.S.W.

This Association, in collaboration with the Department of French, conducted an in-service training day for sixth-form French teachers at the end of May.

In July or August, Professor Leal and Mr. McCarthy plan to present a series of seminars for sixth-form French students.

One of the most momentous developments in the Department in the foreseeable future will be, hopefully, the introduction of Italian. Despite the fact that many highly motivated and extremely able students have been attracted to the Department in 1975, it is clear that language study at the University will not become firmly established until at least two languages are offered.

The introduction of Italian, initially at elementary level for beginners, would, moreover, allow the University to give expression to its frequently expressed desire to relate more closely to the Wollongong community.

The proposal to introduce Italian has already met with an enthusiastic response from Italian residents of the area.


By Dr. Philip de Lacey

In a department with two permanent and 23 part-time staff members, there have been strong pressures for the fulltime contingent to devote its concern to clerical and organisational activities at the expense of the raison d’être of any university — scholarly enquiry.

These pressures have been resisted. Yet, apart from introducing an undergraduate course in 1975, the staff has enrolled graduate honours students for the first time. This development has strengthened the Department’s research potential.

It is now several years since a fairly steady stream of research began to be produced from the Department, and to be reported in local and international literature. A series of articles on enquiries into the dimensions of ethics and morality in relation to education has appeared, as well as reports on researches into school curriculum development, and the relationship of the media of communication to children’s attitudes, and studies of children’s mental growth in relation to environmental experiences and demands, among other concerns.

To support these researches, funds have been awarded both by the University and by a number of outside agencies.

The theoretical basis for the work on mental development is largely that of Piaget, but it also has its roots in the researches of social anthropologists early in the century.

Boas in 1911 proposed a continuity of mental functioning across cultures a “psychic unity” of man. By contrast, W. E. H. Gruffydd assumed among non-westerners a “primitive mentality”, implying qualitatively different modes of thinking.

Rather in line with the Boas tradition, Piaget describes an invariant developmental sequence in mentality, apparent in all children. Much support has emerged for Piaget from a mass of research in many places, testimony to the impact of his theory.

But Piaget’s theory still leaves room for variety in styles of mental growth associated with variations in social and physical influences in different places.

Piaget did not pursue this point far; it remains for others to do so. Australia offers excellent opportunities for this pursuit, including as it does cultures as starkly contrasting as anywhere in the world.

A series of studies of the development of logical thinking among black and white children in several Australian states supported Piaget’s claim about invariant stages, though large differences in rate of development were found.

These differences were explained in terms of environmental variations, though of course the possibility of genetic fluctuations could not be excluded.

A notable extension of earlier work on cultural differences in mentality has appeared from Witkin in New York and Berry in Kingston, Ontario, with whom the author worked in 1973. Berry develops the notion of ecological “demands”, which determine patterns of perceptual and cognitive functioning.

These demands stem from both physical and mental conditions such as climate and terrain. The response of these demands are apparent not only in perceptual and cognitive behaviours but also in social organization and practices.

It seems that social and mental life may be largely predicted in terms of Berry’s ecological functionalism hypothesis; he and others have produced accumulating evidence to this effect over the last ten years.

Largely within this theoretical context, the author has carried out perceptual, cognitive and linguistic surveys of white and black Australian and American children from various environments, and the work is now extending to immigrants into Australia from Europe and Asia. There are indications of support for the notion that levels of mental functioning do indeed reflect characteristics of children’s ecology.

Further, deliberate intervention to alter the surrounding cultural influences associated with predictable changes in mental functioning.

Perhaps the most crucial of the issues now being addressed are the problems of day-care training and comparable measures of mental functioning, and the implications for educational principles and policies.
New Uni. Council gains its first members

Mr. Peter Coleman, M.L.A., and Lt. Col. The Hon. M. F. Willis, M.L.C., are the first members of the new University Council which is scheduled to meet for the first time in August this year.

When this edition of the Recorder went to press, Associate Professor J. S. Hagan, of the Department of History, had just been unanimously elected as one of the four academic staff members on the new Council.

Elections were underway for the other academic staff members, student members, a general staff member, and three convocation members.

Under the University of Wollongong Act (1972), the College Council, which met initially in January, 1969, became the first University Council on January 1 this year. It will remain in office until replaced by the council other than the first council — often referred to as the Chancellor’s Council.

The Council is the University’s governing authority.

Apart from the two Parliamentary members, the Chancellor’s Council will comprise: two official members (chancellor and vice-chancellor); four nominated members (nominees of the N.S.W. Minister for Education); and 13 elected members (two student members, three convocation members, four faculty members, at least three to be professors; one general staff member — elected by general staff, and three members elected by the Chancellor’s Council.

Nominations for the election of convocation members, student members, academic staff members, and the general staff member closed last month.

Candidates for election by convocation need not be convocation members. The only persons ineligible for nomination in this category are full-time University staff members and students proceeding to a degree or diploma at the University.

Membership of the Chancellor’s Council will be 20 or 21, depending on whether the Council at its first meeting elects a Chancellor from within its members or from outside. The Deputy Chancellor must be elected from among the members. Mr. Coleman will represent the N.S.W. Legislative Assembly on the Chancellor’s Council.

A barrister and the Liberal Member for Fuller, Mr. Coleman holds an Arts degree from the University of Sydney and a Master of Science degree (economics) from the London School of Economics.

He has been chairman of the Australian Film and Television School’s Interim Council and for five years was a member of the Australian Council for the Arts. During that time he was chairman of the council’s Education and Training Committee.

A former Bulletin editor, Mr. Coleman is a member of the National Institute of Dramatic Arts board of directors, a trustee of the Australian Museum, and joint editor of the monthly magazine, Quadrant.

He has been on two colleges of advanced education boards; Wollongong is his first university-level appointment.

The Honorable M. F. Willis will represent the N.S.W. Legislative Council on the Chancellor’s Council. A solicitor, he graduated with a Bachelor of Law degree from the University of Sydney in 1957.

He has been a member of the Legislative Council since September, 1970. Between April, 1972, and March, 1975, he was Commanding Officer, University of New South Wales Regiment. He has travelled widely and, in 1964, was guest lecturer at the universities in Java, Indonesia.

Study leave notes

Dr. P. C. Arnold, Department of Mechanical Engineering, will spend from July this year on study leave in the Department of Mechanical Engineering, City University, London, attached to the Fluid Engineering Research Group. He will be on a program of teaching and research related to his interest in the design and construction of ASG solids handling. In September, Dr. Arnold will present two papers related to the design of bins for bulk solids at the 60th National Meeting of the American Institute of Chemical Engineers in Boston, U.S.A.

While in England, he has been invited to lecture on bulk solids handling at the Postgraduate School of Powder Technology, Bradford University.

Dr. G. W. Delamore, Department of Metallurgy, leaves in July to spend a few weeks in the Metallurgical Engineering Department at Queen’s University, Kingston, Ontario. He will lecture there and visit the Ontario Hydro Research Laboratories in Toronto.

He will then go to the Physical Metallurgy Department at the University of Birmingham, England, where he will spend about five months doing research work on the relation between the pure metals, plus computing work.

Mr. J. Irving, Department of Economics, will spend six months from July at the University of Lancaster’s Department of Economics working with Professor Elizabeth Brown on the writings of English economist, P. W. S. Andrews. She will present a paper on this work at the History of Economic Thought Conference at Durham University in September.

Associate Professor N. F. Kennon, Department of Metallurgy, from July will spend the first six months of his study leave at the Lawrence Berkeley Laboratory of the University of California working on alloy development. He will then go to the Central Electricity Research Laboratories in Britain to work on microstructure of steels and some in various universities to exchange research ideas.

Dr. G. M. Mockler, Department of Chemistry, will spend his sabbatical year at the University of Virginia, Charlottesville, U.S.A. He will work on several research projects with Dr. E. Sim, Associate Professor at this university. He is leaving Wollongong in mid-July.

Dr. R. Robinson, Department of Geography, will spend his sabbatical year from July based in Bangkok as consultant to the United Nations Economic and Social Commission for Asia and the Pacific. He will include the coordination of research projects involving port development problems in the ESCAP area, from Japan to Iraq.

Copy sought for Recorder

Students and staff are invited to submit articles of no more than 500 words for possible publication in the Recorder.

Please contact the Editor, Tony Barker, Information Office, Room 116, Administration Building.

The third edition of the Recorder will be published in August. Deadline is Friday, August 1.

The Recorder is published by The University of Wollongong Information Office and printed by South Coast Times Pty., Ltd., 27 Auburn Street, Wollongong.