FUNDS FREEZE STUTS GROWTH

The Vice-Chancellor, Professor L.M. Birt, believes it would be most unlikely that the University of Wollongong would receive funds to allow its $4,600,000 building programme to go ahead in 1978.

He said that he doubted whether any of the three major projects will proceed next year.

The three major projects approved for planning with a view to construction in 1978 are:

- Social Science $2,400,000
- Science $1,500,000
- Administration $ 700,000

"Design on all three projects is well advanced." If two teaching hospitals for Sydney and Newcastle are omitted, Wollongong had the largest building programme approved for planning purposes of any Australian University," he said.

The Minister for Education, Senator the Honourable J.L. Carrick, announced guidelines for university funding for 1978 in the Senate on June 3.

The statement relates to funding for the whole university system, and makes no mention of individual universities. The new Tertiary Education Commission (formally established on June 22) has been asked to present its report, with specific recommendations for each university, by the end of August.

Professor Birt said it would therefore not be possible at this stage to know precisely what the University of Wollongong will get for 1978.

"It is however possible, by making some assumptions, to forecast what might be the situation for the University of Wollongong," he said.

Firstly, CAPITAL WORKS.

The Government will provide in 1978 (in Dec. 1976 cost levels) $21.7 million for the university system. After the end of 1977 there will be no cost supplementation for capital programmes, partly as a reflection of the "more favourable tendering climate", and also as an incentive to achieve economies in operations.

"Much of this sum -- roughly one-third -- would be needed merely to maintain the level of funding provided in 1977 for minor building works, site works and site services.

Professor Birt said a further amount would be needed to meet design costs already incurred for buildings that the universities had assumed would be commenced in 1978.

"Some universities may also have substantial contractual commitments that have to be met.

"The amount available for starting new buildings in 1978 is therefore likely to be small."

"A further complication is that the Minister has indicated that there might be some flexibility between capital and recurrent grants."

"The universities might press for some of the capital allocation to be used for recurrent purposes, or the Tertiary Education Commission might see the need to recommend this." He said that against the background that has been outlined above, it was most unlikely that the University of Wollongong would get funds to allow its programme to continue in 1978.

Secondly, RECURRENT COSTS.

The Government will provide in 1978 $612.1 million (in December 1976 cost levels) for the university system.

Cost supplementation in 1978 will be limited to increase in respect of the wages and salaries components of recurrent grants.

This figure of $612.1 million appears to be exactly the figure recommended by the Universities Commission in its report for the Triennium 1977-79, updated for cost rises.

"The difficulty here, however, is that in 1978 there will be no supplementation for costs other than wages and salaries."

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"The recurrent expenditure is made up of about 82 per cent salaries costs and 18 per cent non-salary costs."

"Under the new arrangements, and assuming that funds are distributed between the universities as the Universities Commission proposed in its last report (an assumption which may not be correct), the universities will be worse off than they had expected to an extent which will increase in proportion to the rate of cost inflation that occurs in 1978," he said.
METALLURGY AWARD HANGS IN UNION

PROFESSOR Geoff Brinson (second left), chairman of the Department of Metallurgy, and Metallurgy lecturer, Dr. Gordon Delamore (right) discuss the Trebor Snibor award hanging on the wall in the Union with Metallurgy Society secretary, David Bendich and Society president, Peter Burgess (left).

In 1961 the Wollongong University College Metallurgy Society was formed and, along with the institution of the famous (infamous?) Red and Green Tap Night, one of the first activities was the sponsorship of student metallocraphy.

Three Metallocraphic Exhibits were held in those early days, with entry open to students from anywhere, but it is with the first two that this tale is concerned.

At that time, one Bob Robins (now U.N. S.W.) was senior lecturer in extractive metallurgy, and being a bit of a lad he conceived the idea of sabotaging that first exhibit with a spurious entry.

He smoothed some damp sand, poked the corner of a cube into it here and there, and proclaimed "Etch Pits in Lutecium". The entry, under a pseudonym, was cast aside by the judges, for in their opinion nobody could have access to lutecium metal and, therefore, the photomicrograph must be a fake.

These learned gentlemen, visiting from Kensington, decided, however, that the Robins effort should be suitably rewarded, and from somewhere up the hill collected some rather damp cow dung in a rather fragile paper bag.

This token of their estimation of him (they were old friends from way back) was presented in a suitable ceremony at the corner of a cube into it here and there, and proclaimed "Etch Pits in Lutecium". That is only my opinion, you might say, for on the occasion they were no fools. That's only my opinion, you might say, for on that occasion they were none other than Brinson and Kennon.

The Jacob effort was disqualified, but nonetheless recognised as a most creditable attempt to foul the system.

During the following year, the concept of an award for the best foul-up perpetrated on or in the department jelled, and a plaster facsimile of the highly appropriate subject, that had been awarded to Bob Robins, was prepared and mounted by the laboratory staff.

It was then presented retrospectively so that Paul Jacob 1965 has the honour to be first recipient of the Trebor Snibor award.

But who was this Trebor Snibor person? There is no mystery, Trebor Snibor is the lad whose name was appended to the entry "Etch Pits in Lutecium" in the first exhibit. Some say he was a rather backward Robert Robins, but there are others who are not so sure.

Article by Leon Nonnek

SCIENCE COUNCIL MEETING HELD HERE

The New South Wales Science and Technology Council will hold its monthly meeting in Wollongong next month — the first held outside the metropolitan area.

The Vice-Chancellor, Professor L.M. Birt, was appointed to the Council last year.

The Council advises the N.S.W. Government on science and technology policy, the co-ordination of scientific activity and on priorities based on community needs and state resources.

The council meeting will be held on July 14 between 9.30 a.m. and 12.30 p.m.

Members will lunch at the University Union Bistro and invitations have been extended to include Chairman of Senate, Professor Geoff Brinson; Wollongong Institute of Education lecturer, Mr. Bill Chapman; Technical College principal Mr. Bruce Short; University Bursar, Mr. Ben Meek and Professor Stephen Hill.

Fishermen, teachers and naval cadets participated in a seminar on LIVING RESOURCES OF THE OCEAN at the University on May 25.

Students in Natural Resource Economics, working under the supervision of Professor Ken Blakey and Mr. Arthur Partridge, organised the seminar.

They have made a special study of the economics of fisheries development, and are concerned about problems of the use and conservation of resources of the ocean, especially on the South Coast.

Mr. Peter Knott said that he and the other students, working in this area in the Department of Economics, had been encouraged to study the economic significance of developing scientific and technological knowledge, and the prospects of the Australian fishing industry related to the proposed extension of territorial waters to the 200-mile limit.

They contacted Dr. Frank Moss, of Kiama, who gave up a medical career to study microbiological chemistry and who became Associate Professor of Microbiological Chemistry at the University of New South Wales. In retirement, he has maintained an interest in marine life.

Discussion involving Dr. Moss and Professors Ken Blakey and Duncan Brown (Biology), and scientists in the Sydney universities resulted in the organisation of the seminar.

It was introduced by Dr. John McIntyre, senior lecturer in Zoology, University of New South Wales, who has published works on The Continental Shelf of Australia and Lake Macquarie and who is currently working on The Ecology of Estuaries.

Apart from University economics and biology staff and students, and Dr. Moss and Dr. McIntyre, participants included a party of naval cadets from Jervis Bay, high-school teachers, fishermen from as far as Ulladulla, and members of the general public.
Robyn Rowland, may have destroyed the "tough-man" image of Australian men.

Research by a University of Wollongong postgraduate psychology student, Ms. Robyn Rowland, may have destroyed the "tough-man" image of Australian men.

About thirty percent of men who took part in a survey conducted by Ms. Rowland obtained a score on a Sex Role Inventory which described them as feminine or near feminine, that is, for men they had an unusually large number of "female" characteristics in their self-description.

This is compared with only eleven percent of men in America who took part in an identical survey.

Ms. Rowland, who is also a part-time tutor in psychology, published the results in an article in the Australian Psychological Society's journal, the Australian Psychologist.

She said her research showed two significant results. "The large proportion of men with feminine characteristics compared with their American counterparts was significant as was the fact that twenty-eight percent of men and women saw themselves with both masculine and feminine characteristics," she said.

"All results were compared with a similar survey, which was developed by American, Dr. Bem.

"The only substantial difference between the results from the two countries was the number of men with feminine characteristics," she said.

In the survey, Ms. Rowland interviewed 226 full-time and part-time students, including professional and working class people, whose ages ranged from 18 to 55 years.


TOUGH IMAGE DESTROYED

She has had a second article, on "Attitudes Towards Women", accepted by the Australian Psychologist, which rejects eighty percent of works submitted as unsuitable for publication.

She said that interviews conducted for the second article showed that, between 1975 and 1976, there was a significant change in the attitude of men towards women.

"Although women's attitudes became less traditional, perhaps International Women's Year had an even greater effect on men's attitudes towards women. Where men had a quite conservative attitude towards women in 1975, in 1976 there was no difference between the attitudes of the men and women interviewed," she said.

Ms. Rowland has been invited by four New Zealand universities to give lectures and conduct seminars for staff and postgraduate students on her research into sex roles in July.

In August, she will convene and chair a symposium at the Australian Psychological Society Annual Conference in Adelaide.

The symposium will be entitled, "Sex Roles: Research on Women and Men", and will involve six papers to be given by academics from a number of Australian universities.

PROFESSORS RE-ELECTED

Professor Geoff Brinson and Professor Lauchlan Chipman have been re-elected, Chairman and Deputy Chairman of the University Academic Senate.

At the opening of Senate in May, the Vice-Chancellor, Professor L.M. Birt, welcomed the members of the Senate to the first meeting of the body constituted after changes had been approved in its composition by the University Council.

He said Council approval flowed from acceptance of the view that internal communication within the University would be improved by a different structure - communication, that is, between departments, faculties and Senate; between departments; between the academic units and the student body, the administration, and finally the Council itself.

"It is, I think, obvious that in the short period in which the University undergoes its last assured growth (we hope until 1979-80) our means of internal communication should be as effective and economical as we can possibly make them," he said.

PROFESSORS RE-ELECTED

Professor Geoff Brinson (right) was recently elected Academic Senate chairman and Professor Lauchlan Chipman (left) deputy chairman.
ALTERNATIVE ENERGY.

A Sydney physics lecturer told a meeting at the University on May 31 that a cautious approach should be made to nuclear power development.

Dr. Ian Falconer, of the Uranium Power Study Group, School of Physics, University of Sydney, was speaking at a lunchtime meeting organised by the recently-formed University of Wollongong Social Responsibility in Science group.

He said that, although nuclear power could provide a practical alternative energy source to fossil fuels, there were disadvantages in the increasing reliance the world was placing on nuclear power for electricity generation.

"Nuclear power would reduce the demand on fossil fuels, which provide a portable power source for transportation, and a valuable raw material for the chemical industry," he said.

"These advantages must be balanced against the problems of the safety of nuclear reactors, the disposal of the highly radioactive waste products, the proliferation of nuclear weapons, and terrorist exploitation of nuclear materials."

Dr. Falconer made the following points in his talk.

* Thermal nuclear reactors, which are currently being used for power production, will contribute significantly to the world's energy requirements for only a few decades.

It has been estimated on the basis of the predicted growth of the number of nuclear power stations in operation to the end of this century, that the uranium recoverable at a reasonable cost (less than $60 a kilogram) will essentially all be used in just over one hundred years.

Nuclear power can only significantly contribute to the solution of the world's energy problems if breeder reactors are developed.

Nuclear energy is produced when a neutron causes a nucleus of uranium-235 to "fission" or break into two pieces of almost equal mass. These pieces move off at a high speed.

They collide with other uranium nuclei, and heat the uranium fuel of the reactor. This heat produces steam to drive turbines and is the useful product of nuclear fission.

The fission fragments are highly radioactive, and, when the fuel rod is removed from the reactor, these fission fragments must be separated from "unburnt" uranium, and isolated from the biosphere for thousands of years.

A single 1000-megawatt reactor produces 1000 kilograms of fission products a year. It has been estimated that one hundred grams of fission product in Sydney's water supply would be sufficient to give the maximum permissible strontium-90 concentration allowed by the International Commission for Radiological Protection.

It has been estimated that, by the year 2000, not one, but the equivalent of at least two thousand 1000-megawatt reactors will be in operation.

These figures indicate that it is imperative that waste products are completely isolated from the biosphere.

* Under normal operating conditions, a reactor releases very little radioactive material into the environment.

Fuel reprocessing plants release considerably more radioactive material into the environment, but this could be reduced to an acceptable level by improved processing techniques.

GROWTH of installed nuclear electrical generation capacitor to the year 2000 based on OECD-IAEA figures. IGW (E) = 1000 megawatts (electrical generation capacity).
Drugs can affect efficiency

LECTURER ISSUES
DRUG WARNING

University of Wollongong psychology lecturer, Dr. Neil Adams, claims that the use of drugs is extremely likely to detract from an individual’s efficiency in coping with life’s problems.

Dr. Adams believes that drugs reduce a person’s attempts to achieve maximum fulfilment, and, in influencing the individual in this way, they must also adversely affect society as a whole.

“Therefore, they are a social problem and not simply a matter for individual choice,” he said.

Dr. Adams made these claims in a recent submission to the Joint Committee of the Legislative Council and Legislative Assembly Upon Drugs.

The submission was not based on any specific research but reflected the opinions and experience of the Wollongong Drug Committee, and his own twenty-five years experience of teaching and counselling in schools, universities, youth groups and other community groups.

Dr. Adams said the attitude taken in the submission was that, although drug use per se should not be regarded as a criminal behaviour, it was an indication of the individual’s need for social intervention in his or her life.

“I urge that every reasonable effort be made to reduce the availability and use of drugs; to educate the public as fully as possible about the personal and social disadvantages of drugs and about socially and psychologically preferred alternatives,” he said.

In his submission, Dr. Adams made specific recommendations. They are:

1. a. Increasing the efforts to control and eliminate trafficking in illegal drugs. This may entail increasing penalties associated with criminal activities in this area.
   b. Discouraging the legalising of any drugs of addiction or possible addiction.
   c. By encouraging, perhaps even coercing, medical practitioners to review their own prescribing habits.
   d. Severely curtailing and closely supervising the advertising and availability of drugs of dependency through pharmacies and other outlets.

2. The potential disadvantages and dangers of continued drug use be made more widely known and, concurrently, access to and information about alternatives which are more beneficial should be improved.

This points to:

a. Public education, preferably through subsidised self-help and community-based groups; the education to be directed towards the information about physical, psychological and social effects of drugs and towards helping people develop more fully the personal resources they might use instead of reliance on drugs.

b. Provision of counselling expertise in virtually every medical practice. This could well entail the need for financial assistance to each medical practice to establish facilities and obtain personnel for this service.

The major themes of Dr. Adams’ submission were that drug use should be discouraged in every possible way and that, while drug use might be pleasurable or apparently beneficial for the user in the short term, its long-term effects were almost invariably personally and socially damaging.

UNI. ENROLS 2504 STUDENTS IN ’77

There were 2504 students enrolled at the University at the Universities Commission audit date of April 30.

This is 228 more than last year’s total and 62 more than the planned intake for 1977.

Total EFTS was 1964 compared with 1932 last year (the Universities Commission 1977 EFTS estimate for Wollongong was 2025).

There were 2191 students enrolled on April 30 for bachelor’s degrees, and of these, 871 were new students, 1250 full-time students and 941 part-time.

The number of students enrolled for each degree were: Arts 951 (789 last year), Commerce 392 (357), Engineering 417 (438), Metallurgy 109 (110) and Science 322 (301).

Ninety-four students were enrolled for diplomas, 84 for masters degrees and 66 for doctor of philosophy degrees.

Assistant Registrar, Mr. Kevin Turnbull, said that there had been a steady increase of enrolments despite the “steady state” policy for education by the Federal Government.

He said the biggest increase was in Arts, where 192 more students were enrolled compared with last year.

Mr. Turnbull said the University of Wollongong continued to maintain a high proportion of part-time students.

FOOTNOTE: EFTS stands for Equivalent Full-Time Students. It is the standard unit which the Universities Commission uses to assess the financial requirements of universities. The “number of students” figures would not be realistic in this area as a postgraduate student requires more staff and space than a full-time undergraduate student, who, in turn, generally requires more than a part-time student.
TWO charts purchased from Yale University depict the evolution of the mammals and the evolution of the reptiles. The part of the latter pictured here shows several types of dinosaurs but especially Brontosaurus in the swamp with carnivorous types on the banks.

GEOLOGY ON DISPLAY

For more than a decade, geological displays have been a permanent feature of the campus.

More recently, however, the Department of Geology has received a special-purpose grant of $3000 to expand significantly such displays.

This grant has enabled the construction of glass cabinets to exhibit portions of the now extensive geological collection in a manner which is secure, yet allows study of the displayed material — although the samples cannot be handled.

In addition to the grant, the department has enjoyed the benefit of important donations and loans of specimens and other materials.

The displays consist of a wide range of specimens, illustrations and related materials. Crystals and mineral, rock and fossil specimens obviously comprise a significant proportion of the exhibits, and these have been collected by staff members, donated to the department, and purchased to provide a wide range of examples (of rocks, and their contained fossils) from around the world.

To further emphasize specific points, photographs extend the rock displays to such diverse features as earthquake effects, photomicrographs of coal, and dinosaurs and mammals — it is difficult to present families of dinosaurs any other way.

And, of course, geological maps (and a three-dimensional model of the geology of the Illawarra) are important facets of the displays. The maps show both Australian and overseas geology; for example, a geological map of France is opposite the room used for French classes.

Two aspects of the displays are perhaps a little different. There is a series of photographs of eminent (late) leaders of Australian geology, with brief notes on their geological work. And the areas of research of staff and students are indicated on a map of Australia, with appropriate extensions for overseas research.

The maps and the displays of the type prepared by the Department of Geology form an integral part of teaching. And, importantly, they provide entertaining and informative details about geology — the study of the Earth.

Dr. Richard Facer
Vice-Chancellor examines China’s education system

The Vice-Chancellor, Professor L.M. Birt, who recently returned from a visit to China, believes that China has very little interest in exporting anything but ideology and that it is in no normal sense an "imperialist" power.

He said that China appeared to be greatly pre-occupied with internal problems. "It really appears to be a 'third-world' country, relatively underdeveloped industrially, technologically and in the physical organisation of society, and in matching use of resources with the expanding needs of its large population," he said.

Professor Birt and his wife visited China for fifteen days with a group of Australian academics and students to examine the entire spectrum of educational activities. He said that universities in China (both teaching and technical) were facing problems of selection and assessment, to try to ensure that appropriately qualified and able people were recruited and that a realistic attempt was made to assess their progress and ability.

"There is even a suggestion that in some places the otherwise universal requirement for work experience between school and university is being waived," he said.

"There also is evidence that there is an increasing volume of literature purchases from overseas in all fields."

He said that postgraduate work was also said to be a "problem". "Presumably China is still attempting to work out how best to train specialists in various fields, having recognised that they must in fact be trained.

"In all their work, they are said to be laying new emphasis on critical analysis by their students."

Professor Birt's overall impression of China was the courteous, dignified, warm and friendly people and the efforts required to feed them. He said there was a massive problem of feeding China's population. "The sheer immensity of the agricultural effort and the agricultural output, brought home by every trip through city suburbs or countryside, is staggering," he said.

"The visible effort is probably magnified by the dependence on human labour rather than mechanisation, but it is powerful nevertheless."

He said that he believed China had evolved a very satisfactory system of government for dealing with its problems at present stage of development. "China is undergoing a process of revision and rethinking of some of its recent attitudes. "There seems to be some reshaping of the emphasis of public policies, and of course, with the broad sweep of the Writings of Mao as a text, it is perfectly possible to develop a whole range of quite sharply different approaches to problems."

Professor Birt said that the new rulers of China were said to be more pragmatic than those who held the reins more recently, even under Mao in his declining years. "Nothing else was as important as correct ideology; and training programmes, the development of differentiated roles of society, and industrialization and economic prosperity were all made secondary to the imposition of a concern for uniformity of idealized thought on China's people," he said.

"Now, in recognition of some years of economic stagnation, China is attempting to improve its education system and make better use of its more able young and old; is seeking to upgrade its technological efficiency; and is accumulating greater reserves of capital to invest in the development of the future."

He said that the effects of this change were evident in the school system, universities, medicine and agriculture. "Such changes as these will create quite new conditions for the continuation of the 'revolution'."

"It was essentially a rural phenomenon — eighty percent of China's people live in rural areas — and the cities have always been more difficult and troublesome."

"Much of the work programme and the philosophy of the dignity of manual labour as the basis for a genuine socialistic quality stem from an agricultural background."

"One wonders to what extent the move to rather different social views will increase the stresses in Chinese society."

WOODOCRINUS macrodactylus.
Complete crinoids (sea lilies) such as this specimen from the Carboniferous (about 320 million years ago) of Britain are rare in marine rocks of Eastern Australia.

CERUSSITE (lead carbonate) forms as an interlocking boxwork pattern of tubular orthorhombic crystals in the oxidized near surface zones of some lead sulphide ore bodies. This sample is from Broken Hill, N.S.W.
It is wise to first give broad, albeit superficial, consideration to the resources of "space-ship Earth"; for without consideration of the general nature of these resources judgment on conservation issues at a parochial level can be decidedly unwise.

What follows on the natural resources of Earth is general knowledge to the average person, but nonetheless, vital general knowledge.

We are primarily concerned with the continuation on Earth of the thin film of living matter which covers much of the Earth's surface. On land and in the oceans, this may be considered at most to be 100 metres thick, and even then regional conditions of, for example, water turbidity and low rainfall produce the patchy world wide pattern of life forms with which we are familiar.

Within this 100-metre film of potential life there are even thinner films of vital importance; these occur at the air-water-solid interfaces. For example, the continued good health of the top 1 mm of the oceans' surface is essential to the continuation of life in the oceans.

I believe that the most chastening single fact to be kept in mind, when discussing conservation, is that the oxygen in the Earth's atmosphere is only there because of the existence of green plants on Earth. Before the evolution of green plants there was no atmospheric oxygen.

It is not ridiculous when looking at the never-ending destruction of forests and erosion and poisoning of productive soils to contemplate that our atmosphere is deficient in oxygen. This should serve as a salutary reminder that there can be no suggestion of allowing present monetary and social values to take precedence over fundamental conservation principles.

Unfortunately (or fortunately?) the time constant of the oxygen cycle is of the order of 2000 years; longer than one person's lifetime and certainly longer than the life of any one government.

The recycling times for other components of the biosphere are in some cases shorter and in other cases much longer. This means that the preservation of the biosphere depends on our state of civilization, that is, on the degree to which present generations are prepared to make sacrifices for future generations.

Until moral values associated with preservation of the biosphere override the pecuniary values of our abhorrent human plague one cannot be sanguine for the future of planet Earth.

Turning now towards the local issues, it is necessary to point out that conservation—the wise use of resources—implies in some cases complete preservation.

For example, there are still a few areas on earth where complex ecological systems are still essentially in long-term equilibrium and serve man (and more importantly the other parts of the biosphere) by being the repositories of a vast, and as yet not understood, wonderland of interdependent plant and animal life.

Europe has no such areas left; Australia has a few but they are under threat and are overdwindmising in number, area and kind. Only a very few viable ecological systems in Australia can be regarded as in any way secure for future generations.

The Illawarra has no areas unaffected by European man. It does have some very small but valuable areas which have only been moderately affected by man. Preservation should also be the aim for the rich arable land, in this high rainfall region, which was obtained with perhaps some contemporary justification by destruction of virgin forests.

However, while preservation is of paramount importance where it is relevant, there are many resources which are inevitably to be "used" for the "benefit" of man. In this area of utilization of resources, wisdom is also required. This conference is evidence of such developing wisdom.

It would be interesting and important to discuss at length and in depth the first and second reports of the Club of Rome and to contemplate alternatives to our present social and economic systems which could perhaps save us from some of the catastrophes which confront us.

We would then perhaps have completely different solutions to our current parochial problems. However, given the existing lack of public awareness and of resolution among those who are aware, it is necessary to make some pragmatic observations on the subject matter of this conference—in the context of current "wisdom". Examination of methods of dealing with industrial waste in this district should, I believe, be based on the following criteria and in the order given:

1. All rain forest areas, however small, must be preserved. This not only means that industrial waste must not be dumped on top of rainforest but also means that pollutants from industrial waste (including wastes discharged to the atmosphere) must not be permitted to put at risk the continued existence of our pockets of temperate rain forest.

2. While aesthetic considerations are secondary to the preservation of ecosystems, the scenic amenity associated with the escarpment should be preserved. This can be done within the bounds of present knowledge and monetary resources if there is good will and understanding.

Unfortunately, an aerial photograph of the Illawarra escarpment shows a lack of sensitivity and co-ordination by many utilities and companies. The preservation of the rain forest and scenic amenity of the escarpment implies, of course, that no industrial waste should be dumped within the proposed Escarpment Park area, except perhaps for purposes of specifically improving public amenity.

3. Beach fronts, headlands and frontal dune systems should not be degraded further. This is not a region generally available for industrial waste disposal.

4. The catchment of Lake Illawarra is not generally suitable for waste disposal. However, proper investigation by competent specialists of particular proposals may show that they are permissible.

5. Industrial "wastes" of intrinsic value should be conserved in the sense of being used wisely. The present reject material from coal washers cannot properly be called waste since it contains high levels of intrinsically valuable organic material.

Separation methods are at present aimed at optimizing profits not conservation.

6. If dumps for unusable wastes are to be established then consideration should be given:
(a) to the construction of one or two very large artificial hills in places where they may be considered as ultimately an addition to public amenity; and
(b) to off-shore dumping subject to proper investigation and control.

It is unlikely that many of the above criteria will be properly considered and implemented in this district unless everyone involved argues for the paramountcy of conservation principles in discussions with those above and below in their hierarchy.

It is time for everyone to put conservation first in his thinking and not treat it as an afterthought forced on us by annoying bureaucratic regulations.

Edward S. Deevey, in "Mineral Cycles" (Scientific American, September, 1970), made the following profoundly moving statement:

"There is a unique and nearly ubiquitous compound, with the empirical formula H2O60 C1480 N16 P1 8 S called living matter. Its synthesis, on an oxidized and uncarboxylated earth, is the most intricate feat of chemical engineering ever performed and the most delicate operation that people have ever tampered with."

Let us tamper with it cautiously and with integrity.
GOVT. APPOINTS SOCIOLOGIST TO ETHNIC COMMISSION

One of the seven part-time commissioners, appointed recently by the State Government to the Ethnic Affairs Commission, lectures on the sociology of migration one day a week at the University of Wollongong.

She is Mrs. Dorothy Buckland, who has spoken at seminars and conferences on migrant issues in Wollongong and whose research papers are available in the University Library.

Mrs. Buckland is also a part-time lecturer in the School of Sociology at the University of New South Wales.

A Greek born in Egypt, Mrs. Buckland was founder of the Australian Migrant Women’s Association in Sydney and would like a branch formed in Wollongong.

“For the last nine years, I have been involved with every group or organisation that has anything to do with migrants,” she said.

Mrs. Buckland, who is the only woman on the Ethnic Affairs Commission, said that one of her aims was to give the term “migrant” a new meaning in the hope that it would lose its derogatory connotation.

“Australians have to be educated into knowing migrants are fellow human beings with something to contribute,” she said. “This can be done by communication, as both groups would learn to respect each other more.”

She would like to see more community centres for migrants in Sydney and Wollongong. “Very little has been done in Wollongong for migrants,” she said.

Mrs. Buckland said that one of the migrants’ problems studied biggest problems currently facing migrants was unemployment.

“It is a more serious problem for a migrant, especially when they are non-English speaking, than it is for an Australian.”

“When there is plenty of work, it does not matter if a person speaks English if he or she is working in a factory.

“But when there is unemployment, the migrant, who is usually the last person to be employed, is the first to go, and without English finds it almost impossible to get another job.”

“The situation is worse when they have no contacts and no money saved, and their health starts to deteriorate because of the tension.”

Mrs. Buckland said that the media should be used more to unite people rather than to divide. “I am very concerned about the welfare of migrants and, as a sociologist, I’m concerned about society in general.”

Overseas scientists on Aust. academy

The Australian Academy of Science has elected two distinguished overseas scientists to be Corresponding Members of the Academy. They are Professor Bart Bok and Sir John Cornforth, FRS.

Corresponding Members of the Academy are elected from distinguished scientists not normally resident in Australia. Other Corresponding Members elected previously are: Lord Adrian, FRS, Nobel Laureate; Professor Dorothy Hodgkin, FRS, Nobel Laureate; Professor Sir Harrie Massey; and Lord Todd, FRS, Nobel Laureate.

Professor Bok, who recently retired as Director of the Steward Observatory in Tucson, Arizona, was the Director of the Mount Stromlo Observatory. In that position Professor Bok was active and successful in promoting Australian astronomy.

He was responsible for the establishment of the Siding Springs Observatory. He has maintained his links with Australia since leaving to work in the United States.

Professor Bok is a Fellow of the US National Academy of Sciences and has served as President of the American Astronomical Society.

Sir John Cornforth was born and educated in Sydney and has done most of his scientific work in England. He was awarded a Nobel Prize in 1975 for his research in biochemistry. He is currently Royal Society Research Professor at the University of Sussex.

FRENCH FILMS IN SECOND SESSION

The Department of European Languages will screen a number of French films during second session.

The films will be held in Pentagon 3 between 11.30 a.m. and 1.30 p.m. on seven Tuesdays in July to September.

The dates are July 26; August 9-16-23; September 6-20-27.

The films are part of the French 222 Civilisation Course.

Details of films which will be screened will be published in the fortnightly edition of Take Note.

BOOK DETECTION CLOSES EXIT GATE

The University Library has installed an electronic book-detection system.

Its purpose is to prevent books being removed from the Library without being properly recorded.

The Library believes the system will improve service because staff will know that a book is either on loan (in which case there is a record which can be checked) or somewhere within the Library.

The electronic system will normally remain inactive allowing free movement through the entrance and exit gates at the main entrance.

However, if a chime sounds and the exit gate locks when the user walks through the exit area, the person concerned should call a member of the Library staff to determine why the system was activated.
Dr. C.A. O'Flaherty, the First Assistant Commissioner (Engineering) with the National Capital Development Commission in Canberra, gave a public lecture at the University on June 9.

He spoke, at the invitation of the Department of Civil Engineering, on "Energy, Technology and Movement". Dr. O'Flaherty is responsible for engineering works within Canberra, together with transport planning, including the public transport system.

He was project chairman for the investigation which resulted in the publication of the report, "Intertown Public Transport Alternatives for Canberra", in June last year.

Previously, Dr. O'Flaherty was Professor of Transport Engineering and Director of the Institute for Transport Studies, University of Leeds. In 1971, the Science Research Council gave him a $340,000 grant to set up the Institute.

He is a chartered engineer and graduate of the National University of Ireland and of Iowa State University, U.S.A., and has worked for local and state governments in Ireland, the U.S.A. and Canada. In 1973, he was a Commonwealth visiting professor at the University of Melbourne.

Dr. O'Flaherty has published many research papers in the field of traffic and transport engineering and planning, and is the author of three well-established books.

An independent committee has recommended that the Government establish a system of loans to supplement existing post-secondary student assistance schemes.

The scheme would be open to all post-secondary students - technical, undergraduate and post-graduate, full-time and part-time, regardless of their course enrolments. The exception would be students enrolled in hobby and similar courses at technical and further education institutions.

In its report, tabled on June 2 by the Minister for Education, Senator Carrick, the Committee on Student Loans said the system should consist of two inter-related schemes.

The first would provide relatively small loans, up to $500, administered mainly by the universities and colleges. The second would provide loans, up to $8000, administered jointly by the educational institutions and financial institutions, such as banks.

Educational institutions would be responsible for determining eligibility under both schemes. Under the second scheme, financial institutions would issue the loans and be responsible for subsequent administration.

The committee recommended that the Government provide $5 million initially for distribution to post-secondary institutions. These funds would be used for small loans.

It recommended also that between $15 and $30 million be made available annually for long-term loans by financial institutions. This figure would be subject to review but, in the first year of the scheme, $10 million should suffice.

Under the first scheme, the educational institutions would decide if interest was to be charged on the loan and if a guarantee was required. Students would have up to two years from the time the loan was taken out to repay it.

Under the second scheme of loans up to $8000, the committee recommended that interest be charged at the prevailing long-term bond rate, reducible, during the period of the loan. The Government would be responsible for interest payments to financial institutions while the borrower was studying and during the period of grace.

Borrowers would be allowed a twelve-month period of grace from the completion or cessation of study to the beginning of repayments. This period should be extended in cases of hardship.

Repayments should be made regularly, possibly monthly, and should be completed within fifteen years.

The committee recommended that loans under the second scheme should be guaranteed, preferably by the Government.

"Finally, it is apparent that disposal of pollutants, now entering Port Kembla or going directly into the ocean, cannot be considered in isolation.

"Surely, for our purposes, the harbour pollution is only one symptom of a bigger problem, and, unless we look at the whole pollutant disposal system of the industrial-residential complex, there is the danger of shifting problems from one part of the system to another."
ACADEMIC SENATE

Professor L.M. Birt, Vice-Chancellor
Mr. J. Hazell, University Librarian

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Professor J. Ryan, Accountancy
Professor A.D. Brown, Biology
Professor B. Halpern, Chemistry
Professor C.A.M. Gray, Civil Engineering
Professor K.A. Blakey, Economics
Professor R. King, Education
Professor B.H. Smith, Electrical Engineering
Ms. D. Gilham, English
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Dr. J.R. Panter, History & Phil. of Science
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(Deputy Chairman)
Professor P. Fisher, Physics
Professor A.M. Clarke, Psychology
Professor S.C. Hill, Sociology

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Professor J. Reinfield, Faculty of Mathematics (Dept. of Comput. Science)
Assoc. Professor P.D. Bolton, Faculty of Science (Dept. of Chemistry)
Professor S.C. Hill, Faculty of Social Sciences (Dept. of Sociology)

ELECTED MEMBERS

Dr. P. Arnold, Engineering (Dept. of Mech. Engineering)
Dr. W. Mitchell, Humanities (Dept. of History)
Mr. P. Castle, Mathematics (Dept. of Maths.)
Dr. A.J. Wright, Science (Dept. of Geology)
Mr. A.J. Anderson, Social Sciences (Dept. of Accountancy)

STUDENT MEMBERS

Mr. G. Butler, Engineering
Ms. J.A.E. Symes, Humanities

CAMPUS NEWS

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

Campus News strives to provide objective coverage of matters of interest to the University community. Letters and submissions are welcome. Send to the Information Office, Admin. Building. Deadline next issue: Wednesday, July 20. Editorial matter may be reprinted freely; credit would be appreciated.

Janine Cullen . . . . . . . . Acting Editor
Beatrice Henderson . . Production Assistant

Mr. Jeff Hazell

Staff changes

APPOINTMENTS

MISS L.A. FAHEY
Professional Officer Education 23/5/77

MR. A. ABDIPRANOTO
Research Assistant Chemistry 23/5/77

MRS. H. MAITLAND
Tutor Psychology 23/5/77

MR. T. SMITH
Clerk Finance 11/5/77

MR. R. HOGARTH
Clerk Finance 11/5/77

MR. B. NGUYEN NGOC
Research Assistant Mech. Eng. 30/5/77

MRS. B. RICKARD
Clerk Finance 30/5/77

MISS L. MIDDLETON
Technical Officer Metallurgy 30/5/77

MR. C. ALLPORT
Lab. Craftsman Civil Eng. 30/5/77

MRS. V. MOON
Office Assistant Library 30/5/77

DR. L.F. SMITH
Senior Lecturer Physics 14/6/77

MR. S. NG
Lecturer Elect. Eng. 20/6/77

RESIGNATIONS

DR. B.B. JONES
Lecturer Elect. Eng. 17/6/77

MISS M. FINNEGAN
Library Assistant Library 10/6/77

MISS C. WILSON
Library Assistant Library 30/6/77

MISS K. STONE
Office Assistant Library 1/7/77

MRS. A. SEERY
P/t Female Cleaner Estate Div. 8/6/77

SPORT

During the second week of the May recess, the University Table Tennis Club sent a two-man team to Perth to participate in the Intervarsity Competition.

Five men's teams and three women's teams competed. The results for the University team were: Wollongong defeated Macquarie 6-5; lost to W.A. 1-10; lost to Murdoch 5-6; and lost to Monash 1-10.

The final placings were: W.A. 1; Monash 2; Murdoch 3; Wollongong 4; Macquarie 5.

Team captain, N.O. Thoi, was ranked No. 5 out of six ranked players, based on performance during the entire competition, having lost four and won eight singles matches in the team event.

Relatively, the team did rather well, considering having only two players, starting off any match by losing 4 rubbers on forfeit (3 singles, 1 doubles).

It was a very successful and well-organised I.V., lots of good table tennis as well as social activities.

The U.W.A. Table Tennis Club did a good job and they are to be congratulated.

Next table tennis I.V. is scheduled in Tasmania and if unsuccessful, the event will be held at Monash University.

So, all university players, get ready for the 1978 I.V.
Aust. rules popular

THIRDS LEAD THE WAY IN UNION

Wollongong University Rugby Union team was top of the third grade ladder in the Illawarra competition.

The team has the necessary depth to carry it over the holiday periods and their help is greatly appreciated.

Individual players such as David (“Snake”) Phillips and Peter Kala, both originally from Victoria, are turning in excellent performances. Thomas Thome, in the Reserves, is proving himself capable of a First Grade position as are many of the other Reserve Grade players.

The team is forming into a sound combination and the second round should see a considerable increase in the winning margins of its victories.

The club is confident of a good second round and the grand final trophy.

The team likely to represent Wollongong in the Intervarsity will be: Hugh Brandon, Wally Hammonds, Bruce Andrews, Dross Mangos, Peter Hickey, Nigel Watler, John Mazzieri, Steve Lambert, Steve Napoleon and Murray Robinson.

The team did not win a match during the week but, to the team’s credit, the largest margin of loss was 4-1 against A.N.U. Other scores were 2-1 against Western Australia: 1-0 Melbourne, 2-0 Adelaide, 2-1 Monash and 2-2 draw against Newcastle.

Top players included Glynn Pulling, Allen Went, Brian Schofield, Peter Beaumont and John Chapman.