Raising the Australian flag

Today's the day!

Today — August 1 — is Monash's 13th Open Day and Modern Dance Group member Penny Mudd characterises what organisers hope the Day will be — a soaring success.

The emphasis of the Day is on solid academic and careers counselling. But it will have its lighter side, too, as representatives of departments, clubs and societies present special activities to show that University life is multifaceted — and can be fun!

For example, the Monash Modern Dance Group will be presenting highlights from their annual production Instep '81 in the Alexander Theatre at noon. The program will feature jazz, classical, Afro-Cuban, contemporary and tap dance. Admission is free.

All set for high-flying Open Day

Also, there will be a re-enactment of Ned Kelly's last stand — on the lawns northwest of the Union at 3 p.m. Kelly Gang armour will be on display.

As well, those who have invented in a Rubik Cube and are now about to throw it out the window can have their Cube restored to the pristine state in the Mathematics department. There's also a competition for Cube masters.

The free Open Day official program has all the details. Photo: Rick Crompton


Inside Reporter

In this issue we look at two Monash projects on distinctively Australian topics.

Later this month the first volume of the limited edition botanical work, The Banksia, featuring the watercolour drawings of University artist Celia Rosser, will be released. For a preview of the superb art work turn to page 7.

This rare species of dwarf kangaroo (right) has the unusual ability to grow new sets of teeth. A study on it is shedding new light on dental development in mammals, page 3.

* Electronics giant acquires hi-fi invention . . . . 2
* Survey on the 'going rate' for graduates . . . . . . . . 4
* The rituals that bind Sumbanese clans . . . . 5
* Attack on Australian defence policies . . . . . . . 6
* The new 'humanism' in architecture . . . . . . . . 9

'World first' opens up new fields of chemical analysis

Monash chemists have achieved a world first. They have developed a method of detecting the spectral lines — the "chemical fingerprints" — of electrically charged molecules.

The method, which opens up new fields of chemical analysis, was conceived by Professor Ron Brown in 1975.

Success came last week with the detection by his team of the spectral lines of an electrically charged molecule of carbon monoxide.

Chemists are able to determine the composition of substances by the established techniques of emission spectroscopy, mass spectroscopy, or, where the energy emitted is in the microwave region of the spectrum, by microwave spectroscopy.

All are powerful methods of chemical analysis, but they only work where the molecules are uncharged.

"Molecules that carry an electric charge are more difficult to study," Professor Brown says, "because the electric charge makes the molecules fly apart (like charges repel each other)."

"You can't get a large enough collection of the molecules to study them."

"It's important to know the spectral lines of charged molecules if you are to know their molecular shape, how their atoms are arranged, or if you want to find out whether they are in the substance or object you are studying."

"Professor Brown says a number of scientists overseas had attempted unsuccessfully to develop a method of determining the "chemical signature" of charged molecules. Some had given up the attempt.

The complicated technique used by the Monash team to "crack" the spectral code of electrically charged carbon monoxide involves the use of a beam of charged molecules, a dye laser, the frequency of which can be varied at will, and microwave radiation.

The laser beam is shone along the beam of molecules. If the laser frequency is correct, the molecules absorb the light from the laser and fluoresce.

The fluorescence at that stage is too feeble to be detected but it can be amplified and detected if the molecule is bombarded simultaneously by microwave radiation of the right frequency.

This frequency is a measure of the molecule's spectral line.

Professor Brown's team hopes to map the spectral lines of a wide range of charged molecules. But the equipment is expensive to run. Even small parts are expensive. An electronic oscillator, for example, a vital piece of equipment, burns out within 100 hours and alone costs $6000 to replace.

Working with Professor Brown are Dr Peter Godfrey, Dr Don McGilvery, senior professional officer, John Crofts and research assistant, Michael Atkinson.
Majority favours test-tube births

Three out of four Australians approve of in vitro fertilisation for couples who otherwise could not have children, according to a recent Australia-wide survey.

The survey was conducted at the end of June by the Roy Morgan Research Centre and the results were released on the eve of the birth last week of Pippin Brennan, Australia's 11th test tube baby.

Ninety-nine per cent of all people surveyed had heard of the in vitro fertilisation technique, and 77 per cent approved. Eleven per cent disapproved, and 12 per cent were undecided.

Significantly, only one per cent of all people surveyed said they were against test tube births on religious grounds, but five per cent disapproved on the grounds that the method was "not natural".

People interviewed were told that at present married couples have to pay about $500 per treatment, and that about one-in-eight treatments had been successful.

Respondents were then asked: "In your opinion, should couples be able to claim their test tube treatment on health insurance, or not?"

Over all people surveyed, 70 per cent said couples should be able to claim the test tube treatment on health insurance, 21 per cent said they shouldn't, and nine per cent were undecided.

Other points to emerge from the survey were:

* People who already have one or two children were more likely to favour IVF (82 per cent) than those with no children (73 per cent).
* Western Australia, with 81 per cent, gave the highest "approval" rating, and Tasmania (66 per cent) the lowest.
* Women aged 14-24 (88 per cent) and 25-34 (87 per cent) were the groups most in favour. Only 63 per cent of males 50-and-over and 68 per cent of females 50-and-over were in favour.
* Of those who gave their religion, 86 per cent of Anglicans approved IVF, followed by Uniting Church and Presbyterian (80 per cent), Methodist (74 per cent), Baptist (68 per cent) and Catholic (67 per cent).

Research yields export income

Negotiations have been completed for the giant Pioneer Electronic Corporation of Japan to acquire a non-exclusive licence to a new feedback system invented by Monash electrical engineer, Associate Professor E. M. Cherry.

The system reduces distortion in amplifiers to only a few parts per million over the entire range of audible frequencies.

The agreement will net Monash more than $400,000 by 1983.

The negotiations were successfully concluded in Japan a few weeks ago by Mills Audio Components Pte. Ltd., the Singapore subsidiary of J. H. Reproducers (Aust), which has an agreement with the University to promote the invention.

Pioneer Electronic Corporation has agreed to make a substantial initial payment under the new agreement and to pay an annual licence fee over the next two years.

Pioneer has already begun manufacture of four models of its integrated amplifiers with two further models to follow, incorporating the invention under the style "nested feedback loops (NFL)".

The arrangement was the culmination of detailed negotiations with Pioneer over the past few months.

The typical distortion level for commercial high-fidelity amplifiers is a fraction of one per cent at middle frequencies, perhaps even less than 0.01 per cent, but distortion increases at low and high frequencies, the deep bass and high treble sounds.

Dr Cherry, with his nested feedback loops principle, is able to improve on the distortion achieved by any other means, and reduce it down to a level of only a few parts per million over the entire range of audible frequencies. To do this he invented a new mathematical principle.

A paper describing the principle won him the 1978 Norman Haynes Medal. The medal is awarded annually for the "most meritorious paper published in the Proceedings of the Institution of Radio and Electronic Engineers Australia during the preceding year."

Adjudication alternates between the Institution of Electrical and Electronic Engineers (New York) and the Institution of Electrical Engineers (London).

Dr Cherry's principle enables negative feedback far in excess of the formerly accepted theoretical limit to be applied to an amplifier.

The Vice-Chancellor, Professor Ray Martin, has expressed delight at the successful completion of the negotiations.

In addition to the financial return that would be received by the University, the negotiations have opened the way for further cooperation between the University and Pioneer Electronic Corporation.

More Open Day news.

The Monash Arts and Crafts Centre will be open on Open Day with demonstrations by tutors and students and an exhibition of works by tutors in the centre's gallery.

The exhibition will remain open throughout August.

Several courses begin at the Arts and Crafts Centre in August. They include pottery, 4-shaft weaving, leadlight window making, printing and colour slides, life drawing, wool carving, sewing, spinning, B&W darkroom techniques, resist oil, silk screen printing and book restoration.

The Centre's Spring brochure, which lists not only the courses above, but also those starting in later months, will be available on Open Day.

For those interested in kits, in the foyer area (first floor) of the Hargrave Library, there will be a display of publications on the history of kits and kite making, together with two authentic replicas of Lawrence Hargrave's box kites.

Lawrence Hargrave was an Australian pioneer of aviation, who made the important discoveries that a curved surface has twice the lift of a flat one, and that a kite with two separate cells or double planes has the greatest stability and soaring power.

We're open tomorrow, too!

The benefits and hazards of drugs to the community is the theme of Monash University's contribution to the National Open Day, which will be held on Sunday, August 2.

The Open Day is part of Victorian Medical Research Week, July 27-August 2, which is aimed at increasing public awareness of the important role of medical research in improving the quality of life.

The Monash display, which will be held in the department of Pharmacology, will compare the benefits and hazards of modern drug therapy, discuss the principles and rationale of different forms of drug therapy, and show how drugs are screened and trials are conducted to determine a drug's action, efficacy and safety.

A computer exhibit will provide a program which will enable the user to consider some of the practical issues which must be taken into account when prescribing drugs to treat various conditions.

Professor Alan Boura, convenor of the Monash Medical Open Day, points out that while Australia boasts a number of centres of excellence in medical research, which are recognised internationally, medical research is poorly funded here.

Per head of population, he says, Australia spends the equivalent of two packets of cigarettes on medical research each year. Canada, Britain and New Zealand spend twice as much, while the US spends 13 times as much.

A free series of lectures on topics of interest to HEC economics students will be held in Robert Blackwood Hall tomorrow (August 2).

The lectures are organised annually by the Economics department.

There will be five sessions and time will be allowed after each lecture for questions and answers. As well, Economics staff members will be on hand for informal discussion with students during the morning tea and lunch breaks.

The program is:

9.45 a.m., "The Role of the Market in the Australian Economy," Professor Maureen Brun.

11.15 a.m., "International Transactions and the Domestic Economy", Professor R. H. Snape.

12.15 p.m., "Causes and Consequences of Economic Growth in Australia", Dr M. Watt.

2.30 p.m., "Inflation: Causes, Cures and Consequences," Dr A. Fels.


August, 1981 2  

MONASH REPORTER
Mini-­­roo: leap in tooth evolution

A study on rare dwarf kangaroos which have the unusual ability to replace teeth is shedding light on evolutionary dental development in mammals.

The study has involved both Monash zoologists and physicists and is being conducted on the species of rock wallaby, Peradorcas concinna, also known as the narbalek.

The Jock Marshall Reserve at Monash is home to a colony of about 20 Peradorcas. In 1977 a Monash team, with the help of the present Conservation Commission of the Northern Territory, captured several of the tiny nocturnal animals — which stand about 30 cm tall and weigh between 1.5 and 2 kg — in the Northern Territory's Mt. Borradaile area, about 300 km east of Darwin. This was the first time that the animals had been captured.

More were collected in an expedition two years ago but seven have actually been born at Monash.

Several aspects of the Peradorcas have been under study.

Senior lecturer, Dr John Nelson, and honours student, Tony Goldstone, have examined features of the life cycle such as breeding behaviour, feeding habits and growth.

But wide scientific interest is being aroused by the rock wallaby's ability to grow new sets of teeth. A study on this is being conducted by Zoology lecturer, Dr Gordon Sanson.

Dr Sanson says that Peradorcas represents, in many ways, the zenith of evolution in mammal tooth development.

The only other animals which have a similar ability are species of sea cows and elephants — neither an ideal subject for close and prolonged scientific study.

**Stages of development**

Dr Sanson says that the following stages of tooth evolution are displayed in different species of kangaroo:

- There are some wallabies which have a tooth organisation and "life" not dissimilar to man's in that the adult dentition is retained throughout normal life.
- The common grey kangaroo, however, exhibits the phenomenon of "molar progression": molars erupt in the back of the jaw and, through the animal's life, are carried forward to the chewing zone in the front.
- Other work at Monash on animals in the Jock Marshall Reserve has shown that this tooth migration is an evolutionary adaptation which has allowed the kangaroos to graze on more abrasive substances. The degree and rate of movement is a response to extrinsic rather than intrinsic forces which are translated to the teeth during chewing.
- In these "normal" roos, the molars, once they have reached the front of the jaw, eventually wear out and are ejected. This means that old animals become toothless and die through inability to graze.
- Monash kangaroos have a maximum of four molars although some develop a fifth.
- Peradorcas takes dental evolution a step further. The mechanism of molar progression is coupled with an ability to generate a seemingly unlimited supply of new teeth.

Dr Sanson believes this adaptation has evolved in response to the animal's extremely abrasive diet. It feeds on a fern which is rich per cent silica in dry weight. Aborigines used the plant to make flour.

Dr Sanson says that the Monash study on kangaroo teeth is potentially capable of resolving a scientific controversy on the formation of teeth in mammals for which two opposing hypotheses have been put forward.

One is the Zahnreihe hypothesis which, Dr Sanson says, the study tends to discount, the other is the "inhibition concept" which he believes can now be modified and extended to fully explain dental development.

The Zahnreihe hypothesis explains tooth development in terms of an impulse travelling down the tooth germ layer — or dental lamina — and initiating tooth growth at fixed sites.

The implication is that the process is tightly controlled genetically, and is fixed among and between species," Dr Sanson says.

The second hypothesis maintains that teeth are potentially capable of developing anywhere along the dental lamina and there is no generating impulse. When growth is initiated, however, the forming tooth sets up a local inhibitory zone which prevents further tooth development in the immediate region. This leads to a similar pattern of tooth generation as the Zahnreihe concept but is capable of explaining many other factors such as the influence of relative skull growth and molar progression on tooth development in all mammals.

The study on kangaroos lends strong support for this hypothesis.

In their case, a rapid rate of molar progression means that teeth are potentially capable of developing anywhere along the dental lamina and there is no generating impulse. When growth is initiated, however, the forming tooth sets up a local inhibitory zone which prevents further tooth development in the immediate region. This leads to a similar pattern of tooth generation as the Zahnreihe concept but is capable of explaining many other factors such as the influence of relative skull growth and molar progression on tooth development in all mammals.

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Initiatives in student/graduate employment

1. A professional register for the experienced

Graduates with significant work experience, as well as recent graduates, have always figured among the clients of Monash's Careers and Appointments Service.

Each year well-qualified people find job placements through referrals, on-campus interviews or vacancy notifications from Careers and Appointments.

Counsellor, Mrs Janice Joosse, says that such graduates contact C & A to discuss their career development, changes in career direction, interstate or overseas moves, and further study. Some have recently completed a degree at Monash, having previously qualified and worked in another field. Graduates who have just returned from overseas or interstate, or who wish to return, often register with C & A. Others are previous clients who have gained work experience and now seek a job or career change.

In response to an increasing number of experienced graduates consulting C & A, it has created a Professional Register.

The number now registered is about 80 and includes quite a few new ones following the closure of the Professional Employment Office.

Mrs Joosse says that many of these graduates wishing to circulate job vacancy details to graduates through the C & A publication Careers Weekly should telephone or mail details to the service (ext. 3190/1/2).

She says that careers officers are available to discuss vacancies and the supply of suitably qualified people. She suggests, too, that a number of Careers Service publications may assist with information in particular fields — for example on employment trends for law or accounting graduates, and salary surveys.

Placement figures for graduates with work experience, excluding all those recently graduated, are: 1977, 114; 1978, 158; 1979, 133; 1980, 126; and among the client of Mona. Career and created a Professional Register, during the first half of this year, 91 have found appointments through C & A. The number now registered is about 80 and employment through C & A.

Each year well qualified people find jobs includes quite a few new ones following the closure of Although not all placements occur through placements through referrals, on-campus interviews the Professional Employment Office, "Careers Weekly" job notifications, the number of or vacancy notifications from Careers and Mrs Joosse says that employers wishing to vacancies appearing in the newsletter does give an indication of the use of the Service by employers.

In 1979 the average number of notifications per week was 45; in 1980, 51.5, and in the first three months of 1981, 61 (including the usually quiet month of January).

Since then the promising trend in use of "Careers Weekly" has been affected by the June postal strike and the halt to recruitment in the Victorian Public Service, but the average for the six months is holding at 50.5 vacancies per week. Of these at least two-thirds are requests for experienced, rather than recent, graduates.

2. A language register

Graduate starting salaries up 12%

Starting salaries for university graduates rose, on average, more than 12 per cent in the year to the end of April, 1981, and there are indications that the rate of increase will remain steady over the next nine months.

The increases ranged from a low of 7.7 per cent for graduates in the biological sciences to an impressive 17.7 per cent for chemical engineers.

These figures emerged from a survey recently completed by the Monash Careers and Appointments Service. Preparing the figures on the language head of the service, Mr Lionel Parrott, said that, while the salaries for engineering graduates recorded the most spectacular increase, they still did not approach the levels suggested by some of the more extravagant claims made in some quarters.

Figures published in the report show graduates' starting salaries range from $14,243 (pass degree) and $14,761 (honours) for mechanical engineers to $14,822 (pass) and $15,241 (honours) for chemical engineers.

Mr Parrott notes that there was a significant increase in the number of graduates employed by the respondent organisations, and — most notably — that the number of organisations employing 50 or more graduates rose from three to eight.

He adds, cautiously: "Projections of future demand for graduates are notoriously unreliable as demand can move backwards and forwards from stable to positive to negative situations very quickly."

"However, there appears to be a marginal balance of opinion suggesting increased graduate intakes in 1982."

He goes on: "One surprising aspect of the survey was the relatively large proportion of employers (25%) paying overtime to graduates in full. A further substantial group (27%) paid overtime only for a limited time. Organisations that are not paying overtime may well have to reconsider their present position."

Irma Rorstadt, a management graduate at the foot of the page opposite shows a comparison of typical average salaries paid to holders of pass degrees at April 30, 1981, as against April 30, 1985.

This year the C&A survey includes the results of a study undertaken by the Higher Education Advisory Research Unit on the salary expectations of newly-enrolled students.

The HEARU study covered 1885 students aged 16-20 enrolling in 1980. Of these, 1446 in six faculties replied to the question: "What salary do you expect to receive immediately after graduation?" — with somewhat surprising results.

As shown in Table A, average starting salaries (in 1980) for all disciplines fell within the range $11,000 to $13,000.

Yet, 55 per cent of the respondents said they expected to earn less than $11,000 (nine per cent putting their expected earnings at less than $8000). The remainder were almost equally divided between the optimum ($21,56 per cent who hoped to make more than $13,000) and the students of the labor market (23.6 per cent who expected to receive between $11,000 and $13,000).

Medical students — not included in Table A, but polled in the HEARU study — returned very different readings.

Of the 106 enrolling medical students who responded to the HEARU survey, 56 per cent expected to earn more than $13,000 (34.5 per cent put their minimum expectations at $19,000), while only 13 per cent expected to receive less than $12,000.

Commenting on the survey results, Lionel Parrott said the figures were open to widely differing interpretations.

The one that he favoured was today's university student is less concerned with the monetary rewards that go with a degree than he or she is with the achievement of a goal or ambition.
Cohesion through ‘conflict’ among Sumbanese clans

The Wanokaka district in the south-west of the Indonesian island of Sumba has a population of some 7000 people divided into 22 major clans. It is a relatively isolated and largely self-sufficient society. It has traditionally had no ruler, no central governing authority, yet it is a society that maintains a high degree of cohesion.

A Monash Ph.D. student in Anthropology and Sociology, Ms Tutli Gunawan, has conducted a study on the complex relationships which bind the clans together. Her work has been supervised by Dr R. H. Desai, a senior lecturer in the department.

Ms Gunawan is Javanese-born but spent some years with her medical doctor husband, Dr David Mitchell, in Sumba, near Timor, in the 1960s and early 70s. She has returned twice since.

Ms Gunawan and Dr Mitchell have been two of the speakers in a current series of lectures on “Indonesian medical traditions” being organised by the Centre of Southeast Asian Studies and the Australia-Indonesia Association.

One of the keys to cohesion in Wanokaka, Ms Gunawan says, lies in shared ritual ceremonies which, paradoxically, feature both conflict and cooperation.

Each of the major clans in the district venerates different ancestors who cleared the land and built the villages and, it is believed, continue to look after their descendants. As these clans have grown, they have segmented, sometimes as a result of disagreement. Each clan is fiercely independent and maintains a distinctive ideology justifying its own importance in the wider society.

To the outsider, then, there are the ingredients of division.

Ms Gunawan describes the following ceremonies which act, however, to bring the clans together.

Twice a year the two sections forming the Upper Valley of the district meet for a boxing contest and a ritual battle on horseback. The same happens between the two sections of the Lower Valley.

Then, once a year, the Upper Valley sections unite to meet the Lower Valley in another ritual battle on horseback. The weapons used are wooden spears and there are injuries, but deaths of the human participants, if not the horses, are rare and “accidental”.

While the men fight, the women cooperate and exchange with their friends from other clans small gifts of cooked rice wrapped in palm leaves.

The fighting coincides with another ceremony which binds the clans together — the annual “greeting” of the marine worms known locally as “nyale” (Lethice viridis). These worms swarm inshore at only one time of the year, on the sixth or eighth night of the waxing moon in March.

The worms are regarded by the Wanokankans as representatives of the soul of the rice crop returning to give life to the newly planted seedlings.

Priests collect the first worms and then the villagers follow, with the size of their haul an indication of the size of the harvest to come. After the worms are collected they make a tasty delicacy.

Ms Gunawan says that the sense of wider community the Wanokankan clans have evolved works for the common good in many ways. An example of this is in their response to epidemic illness.

This formed the topic of her paper at the seminar on Indonesian medical traditions, together with a parallel case from a Balinese village.

The notion of communities coming together to “cleanse” themselves is a significant one in Indonesian traditional medicine. In the Wanokaka district in 1972 Ms Gunawan witnessed a ritual, organised by one of the clans for all the others, to repel an epidemic of a virulent strain of influenza.

The epidemic was seen as a mist enveloping the area. To ward it off a series of warning poles was erected throughout the district. These were constructed from bamboo poles, each bearing eight branches. Attached to the poles were some 100 chicken heads and wings. Each household seeking protection sacrificed a chicken for the pole.

Ms Gunawan also discussed an elaborate ceremony, based on the same principle of the community protecting itself, in a village in Bali.

In the evening ritual, which is held every few years, the villagers invite a god and goddess to descend and inhabit two pre-adolescent girls. When it is believed this has happened the girls are regarded for the time as gods.

Villagers with illnesses gather at the temple where the gods are invoked to be cured by their earthly presence. The girls are then carried by unmarried men on a procession around the boundaries of the village to purify it and establish the gods’ protective force. One of the reasons for performing the ritual in the mid-1960s was to cleanse the village in the wake of the political turmoil of that period.

Says Ms Gunawan: “The community co-operation is a powerful symbol, mentally and spiritually strengthening the people against ‘sickness’.”

Dr Mitchell observes that “modern” medicine has paid little attention to the idea of mobilising the psychological resources of an extended family or an entire community as part of the response to illness. The rituals in Indonesia have an obvious effect in maintaining morale and helping the community cope with epidemic illness, he says.

There is one seminar left in the “Indonesian medical traditions” seminar series. This will be held on Wednesday, August 5 at 8 p.m. in Rotunda theatre R4.

Associate Professor Ken McLean, of the Monash department of Medicine at Prince Henry’s Hospital, will speak on the topic: “What does modern medicine have to offer the Indonesian villager?” Dr Boedihartono, of the department of Anthropology at the University of Indonesia in Jakarta, will talk on “The place of traditional healers in Indonesian today”.

Dr Boedihartono is being brought to Australia, with the aid of the Department of Foreign Affairs, especially for this lecture which is free and open to the public.

Sweet Brazilian music

Forty musicians, dancers and singers will take the stage of the Alexander Theatre on August 5 for the concert, “The Brazilian Confection”.

Organised by Latin American music enthusiast, Denis Close, a tutor in the Spanish department, the concert will feature traditional, contemporary and erudite Brazilian music.

The newly-formed Brazilian Club of Victoria will make a guest appearance to dance a stylised version of the 19th century French dance, the quadrilha.

The concert, which is being supported by the Vera Moore Fund, starts at 8.15 p.m. Tickets, available from the Alex., cost $5 ($2 for students). In view of the interest in the concert among the local South American community, bookings have been advised.
Joint approach on new challenges

In human terms the scientific and technological resources of Victoria — even Australia — are extraordinarily small compared with those of many other industrialised nations.

But Monash's Vice-Chancellor, Professor Ray Martin, has suggested that by the sharing of skills and knowledge and the development of more co-operative ventures we will become more effective in the highly competitive international league of research and development.

Professor Martin made these comments when opening a two week extension course on basic digital transmission system theory, organised by the department of Electrical Engineering and the Research Laboratories of Telecom. Professor Martin described the collaboration between the two bodies as "an exciting development of the greatest significance."

Here, senior lecturer in Electrical Engineering, Dr Kishor D debke, writes for Monash Reporter on the background of the course:

As Australia joins the worldwide trend towards digital transmission in communication networks, not only for data but also for voice and other forms of information, Telecom engineers must face a new challenge.

Staff of the department of Electrical Engineering at Monash and of the Telecom Research Laboratories have joined together to present courses for engineers in this fast developing area.

From a single telephone line stretching across Australia to global satellite communication in just over 100 years is remarkable progress. The pace is quickening: the technical change in telephone networks over the last 30 years has been accelerating and has resulted in an evolution from step-by-step telephone exchanges to cross bar exchanges and now to computer-controlled exchanges. This is bringing digital technology into communication networks. Although digital transmission techniques have developed with the widespread use of computers, they provide advantages for all forms of communications, even including voice signals.

Kept pace

Telecom Australia has kept pace with these changes and Telecom’s use of digital transmission systems is increasing in momentum. The use of Datel Modems (Data via Telephone Modulator-Demodulator) and PCM (Pulse Code Modulation) line systems in junction cables is well established. Several other techniques such as digital radio systems, optical fibre systems, digital coaxial cable systems, high speed Data (Above Voice) and DVI (Data In Voice) and digital subscriber reticulation are under consideration by Telecom Australia.

As part of this forward planning, Telecom has assessed its engineering knowledge-base in digital transmission theory and techniques and found that engineers will have to be retrained to meet the challenge of these new developments.

Telecom has considerable in-house expertise in digital communications but it is of increasing importance to bring together many of its research staff. Similarly, Electrical Engineering at Monash has widespread research and teaching experience in the theory of digital communications.

Some relevant advanced courses dealing with digital communications have been offered by Electrical Engineering over the years as part of the department's Masters degree course and several Telecom engineers have taken many of these courses.

Telecom decided to combine this in-house and University expertise to produce a highly relevant and yet broadly based, two-week extension course on Basic Digital Transmission System Theory.

After the provision of such a course was agreed upon in principle, Drs Alan Gibbs and Bernard Smith, of Telecom, and Associate Professor Bill Brown and Drs Khee Pang and Don Keogh, of Monash, met frequently to decide upon the best course content. Bill Brown co-ordinated the effort while Khee Pang, Don Keogh, Alan Gibbs, Bernard Smith, Reg Coutts, Alex Quan and Tom Stephens (ex-Monash Masters student) produced several hundred pages of notes for the participants.

To make the course relevant and effective, half the time was set aside for examples, exercises, tutorials and discussions in small groups supervised by all the people involved in planning and writing the course material.

The first group of 25 Telecom engineers attended the course during the University break, May 28-June 5, this year and a second group will attend between August 10-24. At present the course is available to Telecom engineers only. Further advanced courses will be offered if required in the future.

The option: 'quarry' or high technology

In its future development Australia has a choice: the "quarry" option or the high technology option, according to Professor Owen Potter, chairman of the Chemical Engineering department.

In the introduction to his department's annual report, Professor Potter says: "The former needs only sedatives but the latter requires strong support from industry and government for our universities."

He says that there has been an improvement in the number and quality of students entering the chemical engineering course at Monash.

Positions available

"In order to maintain and increase this flow, government and industry must ensure there are positions available where Australians can practice digital technology so as to be able to fill positions of a managerial nature."

"We are on the threshold of substantial developments in which Australian engineers wish to have a place. It is important that their wishes be considered."

Professor Potter says that a number of visitors over the years have remarked on the quality of effort in the department in particular in undergraduate laboratory teaching.

He continues: "Sadly, all the forces at work in the system are compelling us, in Razor Gang tradition, to ask for how long overworked staff members will be able to maintain the splendid training we have provided for our students.

"In the United States, companies observe that the universities have problems and proceed to do something about it."

"Can we hope that companies operating in Australia will be similarly enlightened?"

Concern on staff

Professor Potter says that replacing staff members of high ability is not an easy task because university salaries have slipped considerably and there is not a great opportunity for income from consulting.

"It is not easy neither, he says, to maintain momentum in research when the research school is declining in numbers."

He says: "Graduate students in receipt of a Commonwealth Postgraduate Research Award would need a rise of 80 per cent in order to hold value with 1968. In fact a greater increase is necessary because such scholarships were not taxed in 1968 but are now."

Professor Potter remarks that the present shortage of chemical engineers comes as no surprise — he had predicted it five years ago.
fascinated with Banksias ever since." Mrs Rosser's work in Orbit was noticed by the sculptor Clifford Last. In 1965 she was offered her first exhibition - at the Leveson Gallery in Melbourne. Several Banksia works were included in the show which aroused the interest of Dr Garrick Chambers, now a professor of Botany at Western Australia.

Two commissions resulted from the exhibition. One was for the book Wildflowers of Victoria, published in 1967 by Jacaranda Press. The other was from the Maud Gibson Trust for paintings of the six species of Victorian Banksia for the National Herbarium of Victoria. A folio of prints of these watercolour drawings which are lifesize to the original was presented to the Royal Society in London by the Australian Academy of Science on the occasion of the Cook Bi-centenary. Living permanently in Melbourne again, Mrs Rosser in 1970 returned to full-time work when she was appointed artistic to the Science faculty at Monash.

Work on mosses

In 1972 she was seconded for three years to illustrate the book The Mosses of Southern Australia published by Academic Press in 1976 with text by Dr George Scott, of the Monash Botany department, and Dr Tima Stone of the Botany School at Melbourne University. Toward the end of her work on mosses, Monash commissioned her to do the Banksia series. It was a project first proposed by Dr Scott and one enthusiastically endorsed by the then Vice-Chancellor, Sir Louis Matheson, and the present Vice-Chancellor, Professor Ray Martin. The project has been directed throughout by the chairman of the Botany department, Professor Martin Canny. In her first six years work on the project Mrs Rosser has completed the 24 paintings which form the first volume and eight for the second volume. Her method of working is meticulous. All the painted specimens have been gathered in the wild with Mrs Rosser accompanying the collecting parties and selecting samples which are both botanically representative and artistically pleasing. This has taken her all over Australia including as far away as Darwin. While in the field she makes "colour notes" - that is, then and there painting some representative parts to guide her selection of colours back in the studio. The specimens are then kept in cold storage in the Monash Botany department and later sent as dried specimens to the Western Australian Herbarium.

Back in the studio she first makes rough sketches, always working life-size, until satisfied with the layout. This is followed by a succession of drafts on tracing paper, each laid over and improved on the last one. She finishes her work on hand-made 100 per cent rag paper. Each is 770mm x 550mm. It is 200 years almost to the month since the first species of Banksia were classified by Carl Linnaeus, son of the great Swedish botanist of the same name whose volume "Species Plantarum" was the starting point of modern botanical nomenclature.

The first samples of Banksia - four "honeysuckles" - had been collected by Joseph Banks and the Swede, Daniel Solander, at Botany Bay during Captain Cook's first landing on the east coast of Australia in 1770. More than 70 species of Banksia have now been described and all will be included in the three volumes of the current work. Volume two, it is hoped, will be published in 1984 and the final one during 1988, Australia's Bi-centenary year.

The Banksia is endemic in Australia except for one species Banksia dentata which extends to New Guinea, Irian Jaya and the Aru Islands. It grows chiefly in coastal and near-coastal locations with the greatest concentration occurring in the south-west of Western Australia.
Defence approach under attack

Australia’s defence forces are being over-equipped and over-indulged to respond to situations which are unlikely to occur, and under-equipped, under-trained to deal with contingencies that are more or less certain, a Monash legal academic told a conference on "Australia’s Defence Policy for the 1980s" recently.

"It should not surprise therefore if one day this fact is demonstrated dramatically and presently, as it has been when a bewildered nation," Mr Andrew Farran, a senior lecturer, said in a paper, "Lower Level Contingencies and Force Structure", at the conference organised by ANU’s Strategic and Defence Studies Centre.

In the paper, Mr Farran discussed principal features of the current and prospective defence situations, as distinct from those of the past; identified the type of "lower-level" contingencies which Australia might be likely to face; and outlined an "appropriate" force structure for the country.

A controversial point he made was that Australia’s opportunities to acquire "appropriate" capabilities could be impeded by two major items on the defence shopping list now – the so-called purpose-designed ship or replacement for the aircraft carrier HMAS Melbourne, and the Tactical Fighter Force (75 aircraft) to replace the Mirage.

Mr Farran listed these:
- Seizure of isolated island territories such as Cocos Island.
- Raids against key military, civilian or industrial installations in isolated areas – both continuing and sporadic.
- Sporadic intrusions into Australia’s sea and air space, including drug-running and other smuggling, illicit immigration and criminal operations.
- External military support for illegal or unauthorised exploitation of offshore resources, including forces being directed at disputed maritime and sea-bed demarcations.
- Harassment of shipping or threats to their safety in regional locations (such as New Guinea, Southeast Asia or the Pacific).

Mr Farran said that any one or more of these contingencies – separately or in combination – could arise within the period for which provision is being, or should be, made now.

"By their nature, in most instances, the warning time would or could be very slight indeed," he said.

"Hence, an appropriate force structure would be one that is already in being – that does not have to be ‘fleshed out’ as would ‘core-force’ components – but ‘fleshed out’ so as to provide the capability to respond to the various contingencies as they arise, at the locations where hostilities or intrusions are occurring."

Expensive replacements

Mr Farran said that defence proposals now under consideration by the Government “could gravely impair Australia’s ability to protect its most vulnerable national security interests for the coming generation.”

Given that no Government is likely to allocate more than a small proportion of GNP annually to defence purposes in the foreseeable future, two items alone – the Melbourne and Mirage replacements – would consume one-third of Australia’s defence budget.

The replacement aircraft carrier, he argued, “is not a viable or secure entity in a hostile military environment and could be eliminated or destroyed in a single encounter”. Its role would be largely ceremonial as well as co-ordinating blue-water exercises “of doubtful value” and “intimidating” small island states in the Pacific and Indian oceans.

Mr Farran raised similar doubts about the need for a new tactical fighter force designed to achieve air superiority.

There were no “credible scenarios” which required Australia to have such a capability, he said.

"The main requirement for air-superiority in current planning is to protect over-large, expensive items, like aircraft carriers.”

Mr Farran said that the projected force structure “is still based on the assumption of joint operation with a powerful external ally, whereas the foreseeable contingencies will not involve, or are most unlikely to involve, any military action or response on the part of such allies.”

Also he said it showed a continuing obsession with “platforms” as distinct from “weapon systems” – a “major contributing factor to the fundamental misconceptions about defence organisation and planning in the minds of the military establishment”.

“Advances in weaponry have been faster recently than advances in the development of platforms,” he said. “For too long now the approach to force structure has been irrational or back to front.”

In other respects, he argued, that the emphasis in force structure development should be placed increasingly on quick-reaction, mobile forces capable of operating in comparatively small units on land, at sea and over land, possessing close familiarity with the localities in which they may be called on to function as armed units.

Emphasis on surveillance

He said that the function of surveillance was now of fundamental importance.

Among the proposals Mr Farran made for improved air and electronic surveillance and more comprehensive coastal patrolling were these:
- Expansion of the capabilities provided by the Orion P-3s and other smaller coastal aircraft and their supplementation by an all-out commitment to the rapid development of over-the-horizon radar and other electronic systems, such as Jindalee.
- Establishment of more maritime patrol vessels in the relevant sectors of the coast for the Fremantle Class Patrol Boat Fleet, to take account of the variable sea conditions in these areas and the need for continuous cruising range of patrol craft and their limited speeds. To facilitate servicing and minimise infrastructural requirements, different models of patrol craft should be constructed.
- Co-ordinating blue-water and coastal protection and surveillance and support of the defence forces.
- Emphasis on surveillance in the development of platforms; he said, “of course, the function of surveillance was now of fundamental importance.”
- Consideration should be given to the role which covert or surface effect ships could play both in coastal protection and surveillance and support of other defence purposes generally.

UPDATE — a practical information series for businessmen

Melbourne businessman Mr Bob Ansett will launch a new business information series, UPDATE at Monash this month.

UPDATE — which will run through September and October — is being organised by the Monash Centre for Continuing Education and the Melbourne Chamber of Commerce.

The series will aim at providing information of a practical nature to all businessmen, particularly those in the Monash area. Sessions have been planned on such aspects as how to sell, business, time management, how to import and personal effectiveness.

At each session participants will have the opportunity to exchange ideas with others in the field and talk to those who have had successful experience.

Business in ‘80s

Mr Ansett, who is managing director of Budget Rent-A-Car and president of the Melbourne Chamber of Commerce, will talk on "Business in the ’80s" at 7.30 p.m. in Rotunda theatre R2 on Monday, August 24. He will speak on the changing nature of the market place and business environment, and how Australian companies can succeed in the face of increasing competition.

For further information on registration contact the CCE, exts. 3070, 3165/6/7/8.
New architectural approach emphasises —

Warmth, wit and local flavour

"Post-modernism", it has been claimed, is the next term you use while waiting for a more imaginative one to turn up. But lecturer in Visual Arts, Dr Conrad Hamann, sees "post-modern" as having more positive qualities. It describes an approach by architects who share the conviction that the modern movement has run its course, but can be revived.

The advent of post-modernism is good news to those seeking in the modern movement a new approach emphasising appreciation of context and for those who find in much "modern" architecture an inhumanity, even tyranny.

Down but not out

The post-modern approach began to gain ground in the late 1960s with overseas architects Robert Venturi, Charles Moore and Romaldo Giurgola, designer of Australia's new Parliament House, in the vanguard. It took a foothold in the '60s and '70s with widespread criticism of modernism which may be "down" but certainly is not "out". Many of the architects, in fact, see themselves as reforming modernism rather than reacting against it.

In Melbourne, Dr Hamann, who teaches a course in Post-Modern Architecture, points to Maggie Edmond and Peter Corrigan, Norman Grange, Daryl Jackson, Graeme Gunn and Max May as architects influenced by this new approach.

Criticism of 'modernism'

Criticism of "modernism" centres on its "loss of meaning" for people and runs something like this.

The modern movement, characterised in form the industrial age when it was held, without reason, that the machine would create man's lot for the better. This optimistic analysis no longer holds true. Buildings influenced by it are often seen as inhuman, cold and uninviting. Their capacity to enrich our lives has been increasingly questioned.

It has been argued that forms evolved in the 1920s have lost their force, particularly in large city buildings which are frequently either insensitive to their surroundings or, at the other extreme, bland and boring.

In the 1920s the modern movement proclaimed a "new order"; it would "tidy things up". Corbusier had a grand plan to demolish all of Paris and erect in its place a clean orderly-fashioned city. Today, it has been argued, we have come to appreciate richness through diversity, the fact that there are different ways of looking at issues, and the worth of past experience.

The celebrated modernist idea of "form following function" has proved to be not all that successful when implemented. The "open plan" in offices and homes, for example, has been criticised for the lack of privacy it affords inhabitants.

As one of the "watershed" publications in the new way of thinking, Robert Venturi published Complexity and Contradiction in Architecture in 1966. In the book Venturi largely stated what he liked and espoused what have become some of the principles of the post-modern movement.

Among the architectural devices Venturi liked — which were anathema to modernism — were the use of facades as "signs" and the achievement of unity through a variety of elements (various elements combining to make a "difficult whole") rather than through standardisation.

Dr Hamann says that post-modern architects share a desire to reflect in their structures the "richness and complexity" of everyday life. They no longer adhere to an "out with the old and in with the new" approach but believe that our present is enhanced by our past. They draw on elements of older architectural styles which they say hold cultural overtones which should not be obliterated.

"That is not to say, Dr Hamann adds, that post-modernists would attempt a straightforward reproduction of, say, a Classical building.

"They allude to the past while retaining an interest in doing "something new" but in response to the structure's surroundings," he says.

As well as historical references, post-modern architects look to popular sources. In Australia there has been renewed interest in the late 19th Century idea of a "genuinely indigenous" architecture.

Ornament

This acceptance of past styles and the desire to enrich buildings to enhance their warmth and humanity has seen the re-appearance of ornament and decoration and the use of colour, in place of the blankness of colour, in place of the blankness which resulted from the determination of the modern movement to remove ornament.

Dr Hamann says there is an emphasis being placed, too, on humour, particularly irony.

'Post-modern' Melbourne

For Sunday drives with the post-modern touch Dr Hamann has prepared the following list:

Keybrough-Glen Waverley

Edmond and Corrigan

Buildings for the Parish of the Resurrection, Corrigan Road, Keyborough.

• Parish Centre, 1978.

• Primary School, 1976-78.

• Caroline Chisholm Terraces, 1979.

(Norman Day)

Toorak-Malvern

Malvern House, 4 Malvern Place, Glen Waverley, 1981.

(Norman Day)

The "post-modern" movement is marked by the development of a popular concept (rather than one for advertising) in expressing popular social values and artistic instincts. Thus the references on the train to the war (although Japanese being over pride over and football fit in Essendon's colours, red and black).

Below Left: The building most identified with the changing approach to architecture — the house built by Robert Venturi for his mother in Chanel Hill, Philadelphia, 1963-64. Asymmetrical elements are contained in a rigidly symmetrical overall form.


Below: Meander House which draws motifs and forms, among other things, from the suburban infilled brick vernacular.
Facing up to the limits of medicine

The belief that there is nothing that medical science cannot achieve is utopian and has produced false expectations. It is a belief born of the "golden age" of medical discoveries, the first half of this century, Dr Barry Catchlove, head of the Royal Children's Hospital, told the first lunchtime seminar organised by the Monash Centre for Human Bioethics.

But we now have to face the fact, he added, that medical science has reached the flat part of the curve illustrating the law of diminishing returns.

"From now on we will spend more and more for less and less."

With treatment of many forms of cancer, for example, patients' life expectancy and recurrence rates of the disease had not altered appreciably in the last 20 years. The fact is that man's life is finite, Dr Catchlove said. Any extension of life expectancy takes man into the period when degenerative diseases are more likely, requiring more complex treatments.

It was unfair, then, that the profession should be left alone to change those expectations and values. He blamed politicians and bureaucrats for both fuelling unreal expectations and then feeding on public disillusionment when they were not met, by using it as justification to cut health expenditures.

Doctors, he said, were the "meat in the sandwich".

Dr Catchlove spoke on the problems of establishing and measuring the gains that medical science has achieved.

For example, treatment for advanced cancer patients is very expensive and it is debatable if it prolongs life. The administering of powerful drugs often has significant side effects and the question arises: Is the treatment worse than the disease?

Doctors administer such treatments with the belief that, on occasion, they are giving their patients a better quality of life. But it is a subjective assessment.

Dr Catchlove said that data on the quality of life developed by him and a team at the Royal North Shore Hospital in Sydney where he was medical director before coming to Melbourne would be of major importance.

The Quality of Life Index, as it is called, is arrived at through patient response to questions covering five areas which the team's research has shown form the core of the "community view" on quality of life.

The five areas and the sort of information on each the questions seek to determine are:

- Activity - whether the patient has the ability to work or not
- Daily living - how the patient performs "life" tasks, those of personal care
- Health - how a patient feels, good or bad
- Support - what support the patient is receiving from family and friends and what he is able to contribute in return
- Outlook - how the patient feels about the future, whether he is calm and accepting or depressed.

Index

The index has been designed primarily for the clinical trial situation, comparing one treatment against another, rather than for individual patients.

About 70 people attended the seminar.

The next one to be organised by the Centre for Human Bioethics will be held on August 5 in R3 at 11.30 a.m. Dr Robert Young, associate professor at La Trobe University, will talk on "Doing the Right Thing by the Dying".

On the following day and time and venue - Dr Bernard Clark, director of the intensive care unit at St Vincent's Hospital, will talk on "Ethics on the Fringes of Life: Caring for the Critically Ill". The two speakers, in a sense, form the two sides of the euthanasia debate.

The discovery of remnant magnetisation in lunar rocks brought back by the Apollo spacecraft was one of the most surprising discoveries of the last decade, Professor S. K. Runcorn told a recent meeting of the Monash Science faculty.

Professor Runcorn, of the University of Newcastle-upon-Tyne, who was giving a Science Faculty Lecture, said the moon had been shown by early Russian rockets to possess no magnetic field.

Most people had assumed that the moon was dead and didn't have an iron core in which a magnetic field could be generated, he said.

Therefore it came as a surprise when a group at the University of Newcastle-upon-Tyne measured appreciable remnant magnetisation in Apollo rocks.

Not long afterwards, American researchers, using satellite-borne magnetometers, discovered local magnetic fields on the lunar surface.

The explanation offered, he said, was that the moon had, in its early history, a magnetic field generated by dynamo action in an iron core for which there had been hitherto no evidence.

The intensity of this field was 1 Gauss 4000 million years ago, and had decreased by nearly two orders of magnitude by 3200 million years ago.

The moon's core had lost its power to generate a general magnetic field.

In Great Britain, unprecedented cuts to the income and student numbers of universities have been announced recently by the University Grants Committee.

The cuts will be selective.

The chairman of the UGC, Dr Edward Parkes, has said the Committee had to make many competing claims for diminished resources in reaching its recommendations.

Dr Parkes is quoted in Acumen, an occasional newsletter of the Association of Commonwealth Universities, as saying: "There is, of course, no single definitive solution to these problems, partly because the rate at which resources are being removed from the university system necessarily leads to disorder and dis-economy whatever path of change is followed, and partly because reductions in resources are being imposed at a time when demand for university education is still rising."

The cuts drew an angry response from British Vice-Chancellors who said the Government's policy will impose an "extremely serious" impact on both numbers and standards.

The Committee of Vice-Chancellors and Principals of Oxford and Cambridge, in a statement which said: "In simple terms (the cuts) mean something like a one in seven reduction in opportunity for young people able and wishing to go on to university."

"On top of that each one of those who do go will have access to only 90 per cent of the teaching resources available to today's students, and only 80 per cent of those of the generation 10 years ago."

"Moreover, the opportunities for young recruits to research and teaching will be virtually extinguished for an entire age group."

The statement said that reductions on the scale and at the speed planned must involve the forced unemployment of many able scientists and scholars. "The short-term savings from these reductions are likely to fall far short of the cost of compensating staff for dismissal."

There are some of the key points from the UGC announcement as reported in Acumen:

- There will be a 5 per cent (12,250 students) drop in the numbers of UK and other European Community students between 1979-80 and 1983-84.
- There will be an 8.1 per cent (£71.55m) reduction in the recurrent grant (1981-82 base price) between this academic year and next.
- Any estimate of the overall loss of recurrent resources between 1979-80 and 1983-84 is subject to numerous uncertainties but it will probably lie in the range of 11 per cent to 15 per cent.
- The drop in recurrent income between this year and next ranges from 27.5 per cent for Salford University to 1.3 per cent for York. London will be down 8.8 per cent, Oxford, 5.1 per cent and Cambridge 3.7 per cent.
- Nine universities are to lose more than 10 per cent of their Home/EC students by 1983-84 / 1984-85. Salford will lose 30 per cent, London 27.5 per cent, Oxford 3 per cent and Cambridge 2 per cent.
- The Government expects the cuts to recover their loss of income by whatever can be recovered in fees from overseas students but the UGC says that this will amount to little.

But magnetic fields occurred where the crust was broken by impact. Professor Runcorn said the heat sources to melt the moon and to drive magnetic fields is a matter of controversy but super-heavy elements had been suggested.

"Departmental directions of magnetisation of the lunar crust have been interpreted in terms of changes in the orientation of the moon with respect to its axis of rotation due to the great impacts which created the circular mare," he said.

"The bodies which created these basins 4500 million years ago are thought to have been small moons in an orbit around the earth."

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A paper by Monash botanist Dr Terry O'Brien has been decreed a "Citation Classic" by the Institute for Scientific Information.

The honor is given to scientists who have presented a milestone paper in their field.

It is only the second time that a paper in the life sciences by a Monash scientist has been so honored, and in both cases the scientist was Dr O'Brien.

The paper which previously was decreed a "Citation Classic" was published by Feder and O'Brien in 1968 when O'Brien was at Harvard.

Authors of papers decreed a "Citation Classic" are asked to prepare a commentary on their paper.

August, 1981

10 MONASH REPORTER
Centenary of women undergraduates

This year's annual dinner of the Australian Federation of University Women-Victoria will mark a special occasion - important dates for students.

The dinner will be held in the upstairs dining room of the Melbourne University Union on September 25, 6.30 p.m. for 7 p.m.

Guest speaker will be Deputy Chancellor of Melbourne University, Dame Margaret Blackwood.

The dinner will be in the form of a sit-down meal and will cost $15 a head.

For a 'notification of attendance' slip contact Miss Frances Turner, 7/20 Walsh Street, South Yarra 3141.

Replies must be with Miss Turner by September 14.

Fullagar Lecture

The distinguished British legal academic, Professor S. F. C. Milsom, will deliver the 10th Fullagar Memorial Lecture at Monash this month.

Professor Milsom's topic will be: "The Past and the Future of Judge-Made Law". He is a Fellow of St John's College, Cambridge University.

The lecture, which is free and open to the public, will be held in the Alexander Theatre on Wednesday, August 5 at 8.30 p.m.

SCHOLARSHIPS

Applications are invited for the Caltex Woman Graduate of the Year scholarship.

The scholarship is tenable at a University or tertiary institution in Europe, including the UK and Ireland, the US and Canada, or an approved university or tertiary institution in any other country.

In appropriate circumstances the scholarship may be tenable at an Australian tertiary institution. One award will be made in each Australian state.

Each scholarship is for a maximum of two years and amounts to $7000 (Aust) per annum, together with a travel grant of up to $1500.

In determining the award, consideration will be given to high scholastic attainment; the ability to communicate ideas both verbally and in writing; social awareness; achievements in other than the academic arena; sense of purpose; and potentiality for future influence on the Australian community.

To be eligible, women must be Australian citizens or have resided in Australia continuously for seven years. They must be completing or have completed in 1981 a degree in a university or other tertiary institution or be completing or have completed in 1981 a diploma after having previously completed a degree.

Closing date

Applications close on September 30.

The Registrar (Mr J. D. Butchart) is Honorary Secretary to the Selection Committee for Victoria, but in the first instance prospective candidates should discuss their eligibility with the Academic Services Office, Mrs Joan Dawson (ext. 3011), from whom a statement of the conditions of eligibility and the factors to be considered by the Selection Committee in recommending the award is available.

MONASH REPORTER

11

August, 1981
Edward Bond's "Lear"—rarely performed because of the technical demands of the play—has a season at Monash's Union Theatre from August 13.

The play will be performed by University drama students and is being directed by Peter Fitzpatrick, senior lecturer in English, who produced Louis Nowra's "Inner Voices" at Monash in 1980.

"Lear" first production at London's Royal Court Theatre in 1971 cast—win have a sea80n at "Voices" at Monash being London's Royal Court Theatre in 1971 again as 'the kind of play which gives British theatre, rejected by others as a performance rarity."

Mr Fitzpatrick says that "Lear", like other plays by Bond, is sometimes violent.

"But the suffering of its central character, in particular, is a process of catharsis which has a healing affirmation to which it moves," he adds.

"Lear" is many things—it is for much of the time a comic and bizarre play, but its sense of human possibilities and its political vision are intensely serious things.

Mr Fitzpatrick says that in the Monash production he wants to tackle the problems of the play's scope and shifts in style and mood by taking a largely non-naturalistic approach.

"Its emphasis will be on the way 'Lear' for all its moments of ugliness and Monty Python grotesqueries, is centrally about an idea of beauty."

Mr Fitzpatrick says that Bond's "King Lear" plot in many new directions, "most of them unrecognizable as versions of the original, but most of them related to aspects of it."

"In the last scene of the play, Bond's blinded Lear climbs the wall he, as king, has built across England, in a gesture of courage and responsibility that parallels the redemptive suggestions that many readers and audiences have found in Shakespeare's play," he says.

"As in 'King Lear'—and as much moments must always be—the moment of heroism at the end of 'Lear' remains a little ambiguous."

Seminar: "Legal Responsibilities of 'What does modern medicine offer to the Javanese village' by Ken McLean, department of Medicine. Co-sponsored by Centre of Southeast Asian Studies and the Australia-Indonesia Association. 8.30 a.m. RBH. Admission free. Inquiries: ext. 2197.

10: ABORIGINAL STUDIES LECTURE - "The Red Centre in the context of Australian cultural and political developments," by Dr Virginia Beutel. 10.30 a.m. Lecture Theatre R3. Admission free. Inquiries: ext. 3325.

11: SEMINAR - "Ethics on the fringes of life: caring for the critically ill," by Dr Bernard Clark, St Vincent's Hospital. Pres. by Centre for Human Bioethics/Philosophy Society. 1.10 p.m. Lecture Theatre R3. Admission free. Inquiries: ext. 2186.

13: CONCERT - National Boys' Choir mid-year concert of classical, sacred and folk songs. 8.15 p.m. RBH. Admission: auditorium $4.50, balcony $4; students $3. Further information: ext. 3096.

14: SUNDAY Afternoon CONCERT - "The role of traditional artists in Australia in the 1980s," by Prof. S. F. C. Milson, Cambridge. Presented by Monash Faculty of Law. Law Students and the Australia-Indonesia Association. 3 p.m. RBH. Admission free. Inquiries: ext. 3266.
