

Today's
the day!



All set for high-flying Open 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 multi-faceted — 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.

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 invested 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

● More Open Day news Page 2.



MONASH REPORTER

A MAGAZINE FOR THE UNIVERSITY

Registered for posting as a publication, Category B.
NUMBER 6-81 AUGUST 1, 1981

'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"



● Professor Ron Brown

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.

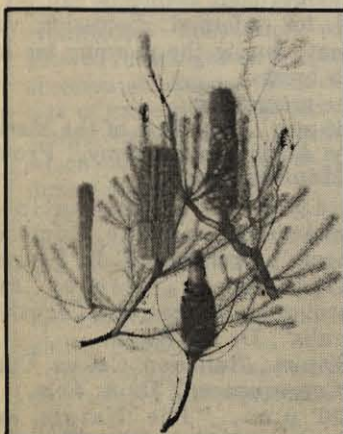
The fluorescence at that stage is too feeble to be detected but it can be amplified and detected if the molecule is bombarded simultaneously by microwave radiation of the right frequency.

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.

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 Banksias*, 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 . . . 8
- The new 'humanism' in architecture . . . 9

Raising the Australian flag



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 \$350 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 baby treatment on health insurance, or not?"

Of 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 strongly in favour. Only 63 per cent of males 50-and-over and 68 per cent of females 50-and-over approved the method.

★ 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 Hayes Medal.

The medal is awarded annually for the "most meritorious paper published in the Proceedings of the Institution of Radio and Electronics 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, he says, the negotiations have opened the way for further co-operation between the University and Pioneer Electronic Corporation.



The University, he said, had also received advice from Mills Audio Components Pte. Ltd., that other manufacturers had been approached concerning the invention and already one other Japanese manufacturer had expressed considerable interest in adopting the Cherry feedback principle into its products.

More Open Day news:

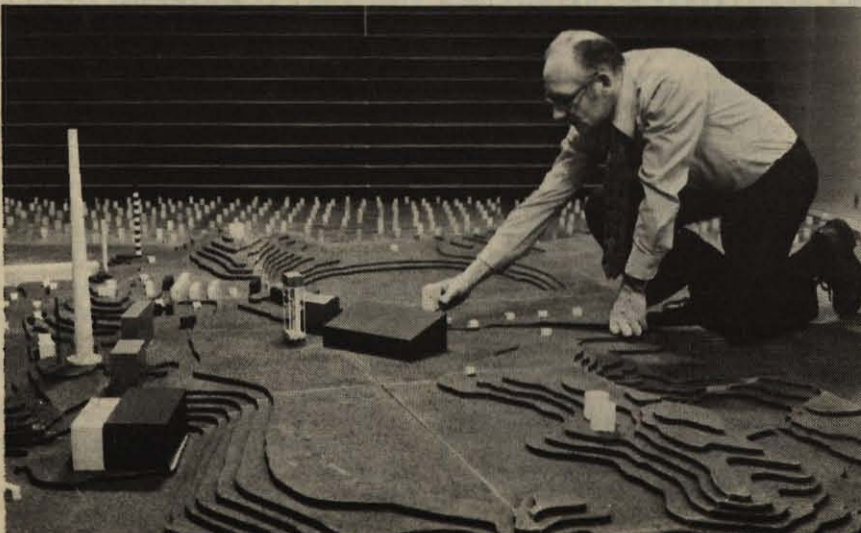
The Monash Arts and Crafts Centre will be open on Open Day with demonstrations by tutors and students and an exhibition of works by tutors in the centre's gallery.

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 colour slides, life drawing, wood carving, sewing, spinning, B&W darkroom techniques, realist oil, silk screen printing and book restoration.

The Centre's Spring brochure, which lists not only the courses above, but

The Mechanical Engineering Department's wind tunnel — the most powerful in any Australian university — is being used to calculate wind speed and test its effects on this model of a giant Mt Isa chimney stack. The actual chimney stack is 270 metres high with a diameter at the top of 12.27 metres. Pictured with the model is technical officer George Perry who made the model.



also those starting in later months, will be available on Open Day.

For those interested in kites, in the foyer area (first floor) of the Hargrave Library, there will be a display of publications on the history of kites 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 Medical 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, convener 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 HSC 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 Brunt.

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. Watts.

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

3.30 p.m., "The Nature and Evaluation of Alternative Economic Systems", Dr I. Ward.

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 1¼ 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 been examining features of its 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.

Most 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 26 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 the teeth and associated inhibitory zones are being removed from the dental lamina, allowing the continuous induction of new teeth.

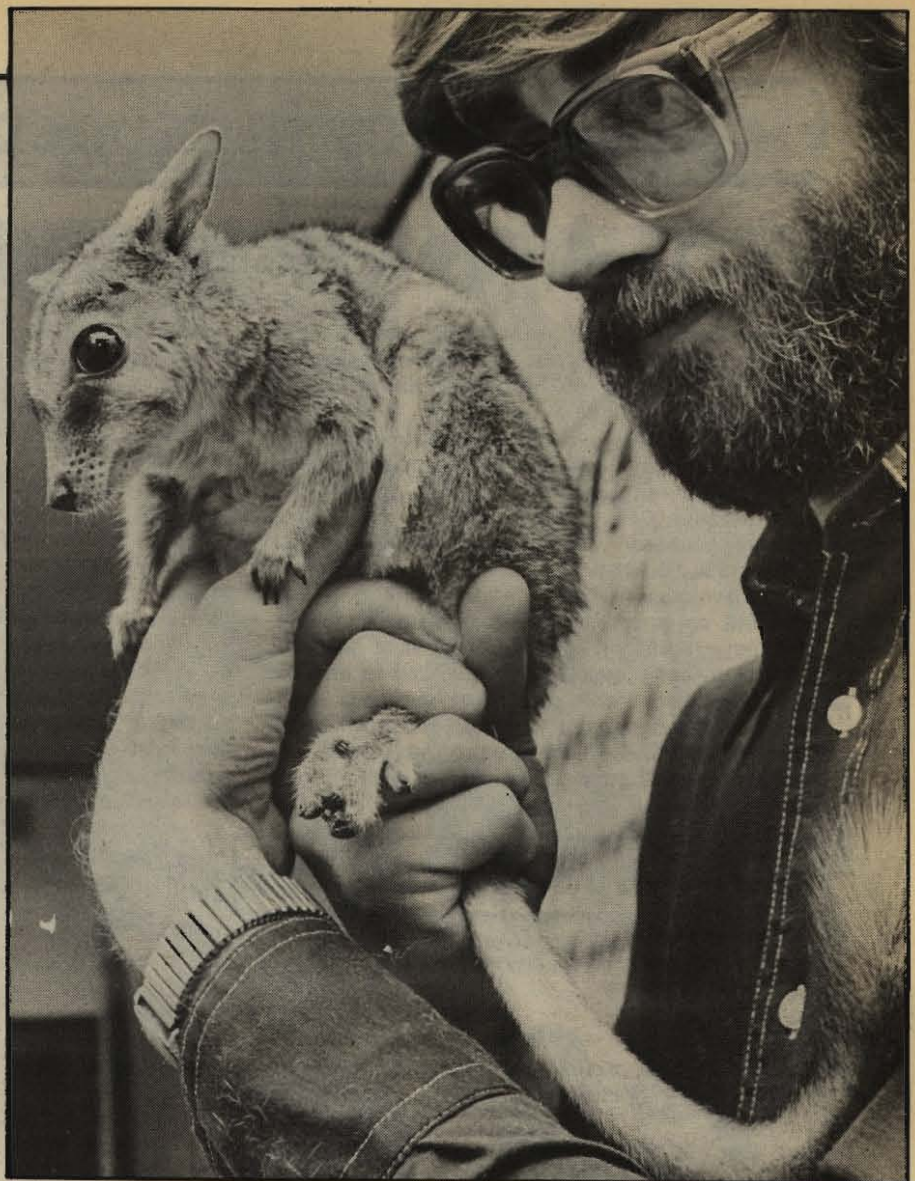
This second explanation, Dr Sanson says, does not demand the same rigid control in the pattern of tooth development that the Zahnreihe hypothesis does and consequently better explains a great deal of the variation and plasticity seen in mammalian dentitions, including man's. The pattern may, in fact, be altered readily by changing environmental factors, he says.

Dr Sanson says that it is an "interesting evolutionary point" that the *Peradorcas* has "paid a price" for its ability to replace teeth.

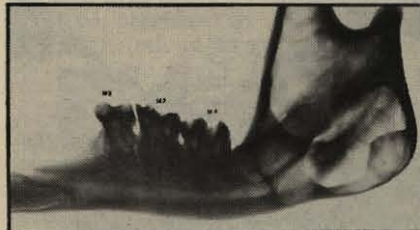
"It seems that the wallaby's teeth grow too quickly for the best type of enamel development," he says.

This aspect of the study has involved physicists, **Dr Prem Phakey**, a senior lecturer, **Mr Joe Palamara**, a Ph.D. student, and **Professor Bill Rachinger**.

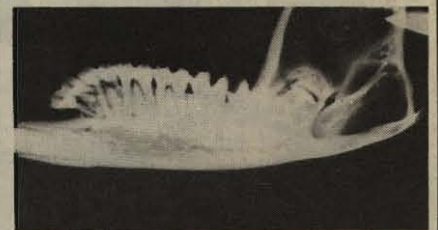
Using an electron microscope which allows very large magnifications, they have examined the "ultrastructure" of the enamel of the *Peradorcas* tooth — looking at the type of crystals which form the enamel, their arrangement,



• Dr Gordon Sanson with one of the rare mini-roos. Photo: The Sun.



• The x-ray photo left is of the jaw of an ordinary grey kangaroo and shows the progression of molars (the animal has lost one); at right, a *Peradorcas* jaw showing unlimited tooth supply.



ABOVE: A section of *Peradorcas* tooth enamel magnified 125,000 times. The loose packing of big and small crystals is evident.

Through an electron microscope:

Tooth enamel magnified by 100,000+

RIGHT: Human enamel magnified by 100,000. The long lathe-like crystals are well packed by comparison.



packing and other structural properties which determine strength.

In the case of the *Peradorcas* they have found a "highly defective" surface layer of enamel in which the crystals are very poorly packed — worse, in fact, than the underlying two-thirds of enamel through which tubules run from the dentine underlying the enamel.

Dr Phakey says that the crystal arrangement in the surface layer of enamel of the *Peradorcas* tooth is more defective than in other species of kangaroos and this layer is thicker.

These observations are evidence of rapid crystallisation in *Peradorcas* teeth and support the suggestions of Dr Sanson.

In man's teeth there is a comparatively good arrangement of crystals.

Given man's diet and the bacteria which live in his mouth he could be in difficulty after just a few meals if he had *Peradorcas*'s teeth, Dr Phakey says.

As an extension of the work on kangaroo teeth, Dr Sanson hopes to move on to a study of the development of scales in fish and reptiles.

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.

Careers counsellor, Mrs Janice Jooose, 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 Jooose says that employers wishing to circulate job vacancy details to graduates through the C & A publication *Careers Weekly* should telephone or mail details to the Service (ext. 3150/1/2).

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 during the first half of this year, 91 have found employment through C & A.

Although not all placements occur through "Careers Weekly" job notifications, the number of 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



● Irmgard Good checks the language register with three of the students on it — Noriah Taslim (Indonesian and Malay), Danielle Chepeau (French) and Robert Kaldawi (Arabic and French).

Monash's Student Employment Office has established a "language register".

Through the register employers will be able to contact students for casual or part-time work in translating and interpreting. The register covers some 28 languages including major European and Asian ones.

Student Employment Officer, Irmgard Good, says that many of the nearly 200 students who have so far joined the register are native speakers of their specialist language. Others have studied the language as a major sequence at University and have used it abroad.

Irmgard believes that the service will be a boon to companies which are importing and exporting, and receiving overseas visitors, and firms in the tourist industry.

She believes, too, that there might be work around the University with academics seeking the translation of papers in their areas of interest. As well as language abilities some of those registered have the expertise to do technical translations.

As a native German-speaker, Irmgard found translating and interpreting a lucrative pursuit in her own student days.

She says that while it often involves routine work, like translation of correspondence or weightier tomes, there can be a more adventurous aspect.

One Monash student had an expenses-paid week in Tasmania last

summer while on assignment as an interpreter to a delegation of overseas businessmen.

These are the languages which are on the register already: Arabic, Bengali, Chinese, Danish, Dutch, French, German, Greek, Hebrew, Hindi, Hungarian, Indonesian, Italian, Japanese, Malay, Persian, Polish, Portuguese, Russian, Serbo-Croatian, Spanish, Swahili, Swedish, Tamil, Thai, Tongan, Turkish and Vietnamese.

People wishing to use the service and students seeking to register (any Czech speakers around?) should contact Irmgard on ext. 3150/1/2. Her office is on the first floor of the Union building.

On the general job front, the Student Employment Office continues its drive to stimulate part-time employment for students during term and full-time work over the August break, leading up to the "big one" for student jobs — the summer vacation.

Irmgard says that employers of students can range from factory managers to pensioners.

"The type of work students are prepared to do is almost limitless — clerical, accounting, laboring, process work, domestic, gardening, childminding, selling, driving," she says.

Irmgard also maintains a large and comprehensive tutoring register with tutors listed according to suburb and subject.

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 7.1 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.

Commenting on the figures, the 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 engineers' starting salaries ranging from \$14,243 (pass degree) and \$14,761 (honours) for mechanical engineers to \$14,822 (pass) and \$15,241 (honours) for chemical engineers.

The C&A survey covers graduates in Arts, Economics, Engineering, Law and Science, and draws on responses from 91 organisations employing 1445 graduates.

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 number of employers (25) paying overtime to graduates in full. A further substantial group (27) paid overtime up to a salary limit. Organisations that are not paying overtime may well have to reconsider their present position."

The table 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, 1980.

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, 1445 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 — \$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 \$5000). The remainder were almost equally divided between the optimists (21.6 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, 55 per cent expected to earn more than \$13,000 (24.5 per cent put their minimum expectations at \$19,000), while only 13 per cent expected to receive less than \$13,000.

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

The one that he favoured was that 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 Tuti 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 co-operation.

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" (*Leodice viridis*). These worms swarm inshore at only one time of the year, on the seventh or eighth night of the waning moon in March.

The worms are regarded by the Wanokakans 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 Wanokakan 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



ABOVE: One of the bamboo warning poles erected in the Wanokaka district of Sumba in 1972 to ward off a flu epidemic. Attached to the poles in the centre are chicken heads and wings.

LEFT: Monash Ph.D. student Tuti Gunawan photographed in Sumba participating in a local dance on the evening preceding a ritual feast.

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 Boedhihartono**, of the department of Anthropology at the University of Indonesia in Jakarta, will talk on "The place of traditional healers in Indonesia today".

Dr Boedhihartono 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.

TABLE A: Comparison of graduates' average salaries, 1980-1981

Discipline	Salary at 30/4/80	Salary at 30/4/81	Per cent increase
Arts			
Humanities	\$11,604	\$12,775	10.1
Languages	\$11,706	\$12,664	8.2
Social Sciences	\$11,851	\$12,723	7.4
Economics			
Accounting	\$11,305	\$12,553	11.0
Econometrics	\$11,429	\$12,847	8.3
Engineering			
Chemical	\$12,597	\$14,822	17.7
Civil	\$12,529	\$14,678	17.1
Electrical	\$12,575	\$14,249	13.3
Materials	\$12,617	\$14,485	14.8
Mechanical	\$12,440	\$14,243	14.5
Law			
Law/Arts	\$12,031	\$13,383	11.2
Law/Economics	\$11,640	\$13,117	12.7
Science			
Biological sciences	\$12,180	\$13,044	7.1
Environmental science	\$12,131	\$13,449	10.9
Chemistry	\$11,869	\$13,539	14.1
Computer science	\$11,837	\$13,313	12.5
Maths/stats, physics	\$11,680	\$12,866	10.1
Geology	\$12,154	\$13,878	14.2

(On average, an honours degree could be expected to add about \$800 to the starting salary.)

Sweet Brazilian music

Forty musicians, dancers and singers will take the stage of the Alexander Theatre on August 3 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 \$3 (\$2 for students). In view of the interest in the concert among the local South American community, bookings have been advised.



● Dr Don Keogh, (left) of Monash and Dr Bernard Smith, (centre) of Telecom Research Laboratories, were lecturers in the course on basic digital transmission system theory. Here, with participant Nick Demytko, of Telecom, they examine digital data test equipment in Electrical Engineering. Photo: Peter Herforth.

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 Dabke, 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 of technological 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, thus bringing digital technology into communications 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 Datal 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 DAV (Data Above Voice) and DIV (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 among 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 in 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 25-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 practise high technology as well as 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 particularly 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 great opportunity for income from consulting.

It is not easy either, 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 says that the present shortage of chemical engineers comes as no surprise — he had predicted it five years ago.

Reveal the beauty of Banksia



TOP: Banksia grandis

ABOVE: Banksia dentata

BELOW: Banksia sphaerocarpa.



"Their distinctive Australian-ness" is one quality which attracts artist Celia Rosser to the Banksia.

Mrs Rosser discovered the beauty of the plant in the bush around Orbost in the early 1960s but since 1975, when Monash University commissioned her to paint all the species of Banksia for the work now to be launched, it has become the subject of full-time devotion.

An RMIT-trained commercial artist, Mrs Rosser left Melbourne for Orbost when her husband's work took the family there.

Part of her relaxation then was to go on painting expeditions into the country with a friend, Brenda Murray — and the children — while their husbands played golf.

On one such expedition the party's car became bogged.

"While awaiting assistance, Brenda 'challenged' me to paint some of the wildflowers we had gathered," Mrs Rosser recalls. "In the bunch was a Banksia serrata bud. I have been

ling beauty Banksias

The first volume of the prestigious three-volume work, "The Banksias" — which features the watercolour drawings of Monash University artist Celia Rosser — will be launched at the 13th International Botanical Congress to be held in Sydney this month.

The hand-bound volume is being limited to 720 numbered copies and, when subscriptions open, will become a world-wide collectors' item.

It is being published by Academic Press, London, in association with Monash University.

The text is by Alex George, executive editor of "Flora of Australia", a special project of the Commonwealth Bureau of Flora and Fauna. He has held a life-long interest in Banksias and, after graduating from the University of Western Australia, began a serious study of the genus.

The first volume contains drawings and descriptions of 24 Banksia species in chronological order of their being described.

The plates are accurately reproduced from Mrs Rosser's watercolour drawings which are lifesize to the original specimens. The plates have been litho-printed in up to eight

colours on hand-made 100 per cent rag paper. Each is 770mm x 550mm.

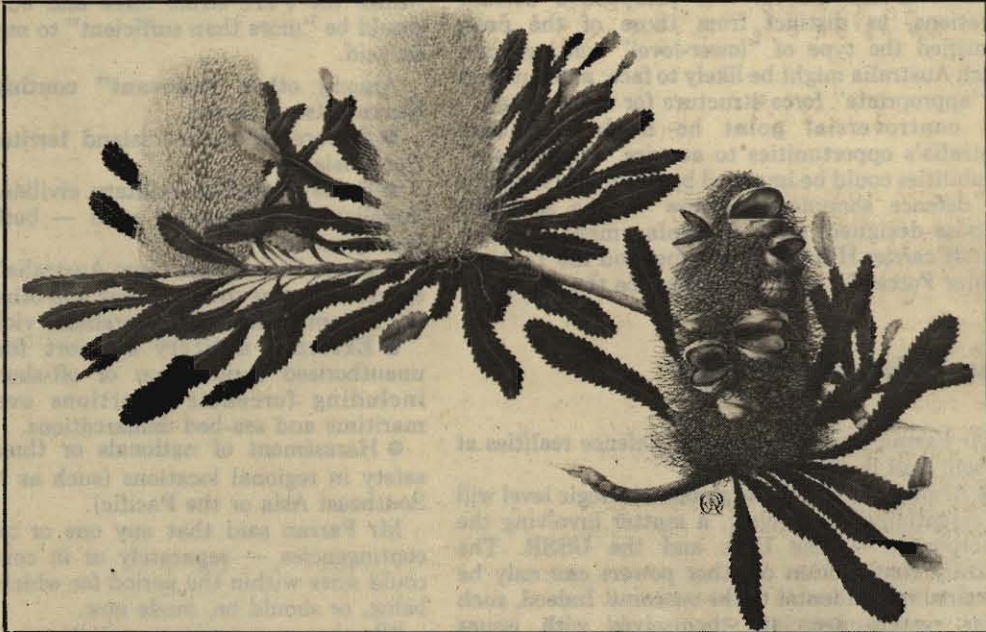
It is 200 years almost to the month since the first species of Banksia were classified by Carl Linnaeus, son of the great Swedish botanist of the same name whose volume "Species Plantarum" was the starting point of modern botanical nomenclature.

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.

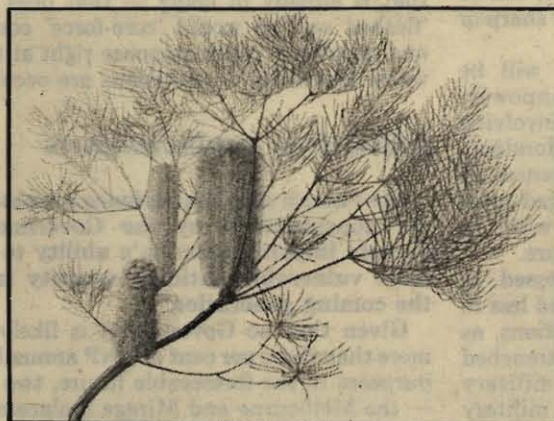
More than 70 species of Banksia have now been described and all will be included in the three volumes of the current work. Volume two, it is hoped, will be published in 1984 and the final one during 1988, Australia's Bi-centenary year.

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.



LEFT: The artist, Celia Rosser, at work.
ABOVE: *Banksia serrata*. BELOW: *Banksia spinulosa*.
Photos: Rick Crompton



Banksias through another's eyes ...

Beauty is in the eye of the beholder and while Celia Rosser now communicates the beauty of Banksias to all, not every artist has viewed them this way. May Gibbs' impression of the wicked Banksiamen — from the children's classic *Snugglepot and Cuddlepie* — has struck fear into the hearts of generations of Australian children.



fascinated with Banksias ever since."

Mrs Rosser's work in Orbost 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 Melbourne University.

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 was published earlier this year with proceeds from the sale being shared by the Maud Gibson Trust and the National Trust.

These paintings show the beginnings of a technique which Mrs Rosser had refined by 1970, as evidenced in the painting of *Banksia serrata* which

was presented to the Royal Society in London by the Australian Academy of Science on the occasion of the Cook Bicentenary.

Living permanently in Melbourne again, Mrs Rosser in 1970 returned to full-time work when she was appointed artist 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 Ilma 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 improving on the last one. She finishes with a pencil drawing on heavy-grade watercolour paper as a base for the brush work.

Exhibition

An exhibition of Mrs Rosser's work for "The Banksias" was held in the Exhibition Gallery in the Monash Visual Arts department in 1978 and another is being planned currently.

In May the artist travelled to London for final talks with Academic Press and the printers, Curwen Press. She will return in October for the British launching of *The Banksias* at Australia House.

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 and under-manned to deal with contingencies that are more or less certain, a Monash legal academic told a conference on "Australian Defence Policy for the 1980s" recently.

"It should not surprise therefore if one day this fact is demonstrated dramatically and painfully to a bewildered nation," Mr Andrew Farran, a senior lecturer, said in a paper, "Lower Level Contingencies and Force Structure", delivered 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.

The defence 'realities'

Mr Farran identified these as defence realities at present and in the future:

- Armed conflict at the global, strategic level will be essentially, even solely, a matter involving the superpowers — the USA and the USSR. The military contribution of other powers can only be marginal or incidental to the outcome. Indeed, such other powers associate themselves with issues involving the central balance at their peril.

- Armed conflict at any level that may involve Australia in its own defence, should it occur, will be relatively short or sporadic in duration and sharp or sudden in character.

- Any such armed conflict in future will be weapon-oriented, as distinct from manpower-oriented, and previous military traditions involving a citizen response are now substantially redundant.

Mr Farran said that revolutionary advances in weaponry have — or should have — changed most previous strategic and tactical doctrine with, in turn, obvious implications for force structure.

"Much of the debate we have witnessed in Australia in recent years has been addressed less to these profound changes, and their implications, as to a concern to preserve or protect entrenched interests or attitudes in the political-military structures which determine and allocate military resources," he said.

The "lower-level" contingencies — those short of global conflict or a direct military assault on Australia — which Mr Farran said the country might be likely to face required some extra-territorial defence capability.

"It is not accepted that Australia has a need to advance or protect its political and economic interests beyond its jurisdictional limits by developing a capacity to intrude or inject its forces into the territory of other states," he said.

'Forces ill-prepared for realistic contingencies'

But, he added, a capability should exist to deal with a contingency in "near" areas — for example, harassment of Australian ports and harbours or our coastal routes.

A second necessary extra-territorial capability he said, was that of a deterrent force designed "to prevent from action by fear of the consequences" or to induce in others "a state of mind brought about by the existence of a credible threat of unacceptable consequences". For the present and foreseeable future the F111 strike force and our submarines would be "more than sufficient" to meet this need, he said.

Among other "relevant" contingencies, 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 quarantine violations.

- External military support for illegal or unauthorised exploitation of off-shore resources, including forceable assertions over disputed maritime and sea-bed demarcations.

- Harassment of nationals 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 'fleshed out' as would 'core-force' components — and capable of quick response right 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 three per cent of GNP annually to defence purposes in the foreseeable future, two items alone — the Melbourne and Mirage replacements — will consume three billion dollars.

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 posited on the assumption of joint action 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 light of his own analysis of the security situation, Mr Farran said that Australia's defence structure, as it stands, was not without relevant capabilities. Its deterrent capacity would be effective against the existing and projected capabilities of all significant regional powers.

He suggested, however, that Australia should acquire more submarines as part of a joint surveillance / deterrent force.

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 and water, 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 P3s 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 base points 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, the relatively shorter cruising range of patrol craft and their limited speeds. To facilitate servicing and minimise infrastructure requirements, such bases should use modular systems which reduce the need for repairing or replacing individual parts on site. Instead, modules would be exchanged and used modules returned to central industrial locations for servicing. An efficient transport arm, with short - take - off - and - landing capabilities, would be another essential component.

- Consideration should be given to the role which hovercraft or surface effect ships can 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 known as 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 businesses, particularly those in the Monash area. Sessions have been planned on such aspects as how to sell, promoting 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 his own experience at the helm of a competitive enterprise and will answer questions. Mr Eric Bennett, of the Melbourne Chamber of Commerce, will also speak and provide details on UPDATE and the Chamber's services to people in business.

Interested business people have been advised to register for the series early as numbers will be limited.

For further information on registration contact the CCE, exts. 3707, 3716/7/8.

New architectural approach emphasises —

Warmth, wit and local flavour

"Post-modernism", it has been claimed, is the sort of 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, he says.

The advent of post-modernism is good news to those seeking in the buildings that surround them warmth, wit, an indigenous flavour and an 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 1950s — 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 Day, Peter Crone, Daryl Jackson, Graeme Gunn and Max May as architects influenced by this new approach.

Criticism of 'modernism'

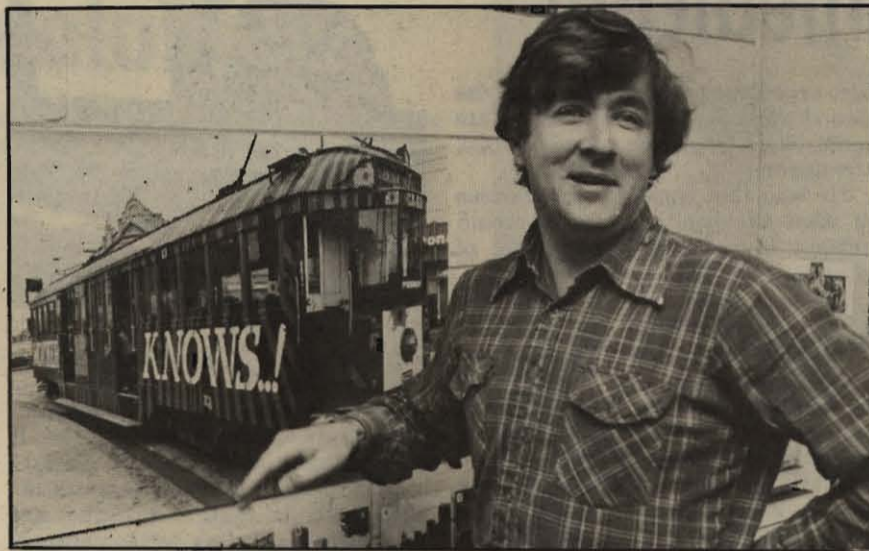
Criticism of "modernism" centres on its "loss of meaning" for people and runs something like this:

The modern movement celebrated in form the industrial age when it was held, without question, that the machine would change man's lot for the better. This optimistic analysis no longer is held to be universally 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.

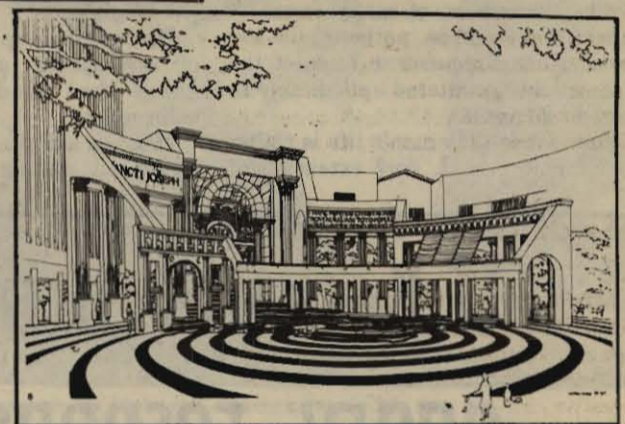


LEFT: Conrad Hamann explains the post-modern approach of the 'Mother Knows ...!' Melbourne tram decorated by architects Edmond and Corrigan. Post-modernists, he says, are interested in the sign as a concept (other than for advertising) and in exploring popular sentiment and national folklore. There are references on the tram to the war (although Japanese rising suns were painted over) and football (it is 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 Chestnut Hill, Philadelphia, 1962-64. Asymmetrical elements are contained in a rigidly symmetrical overall form.

RIGHT: Charles Moore's Piazza d'Italia in New Orleans (1978) exhibits a playful treatment of classical motifs.

BOTTOM: Box Hill chapel by Edmond and Corrigan — a controversial building which draws motifs and forms from, among other things, the suburban triple-fronted brick veneer.



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.

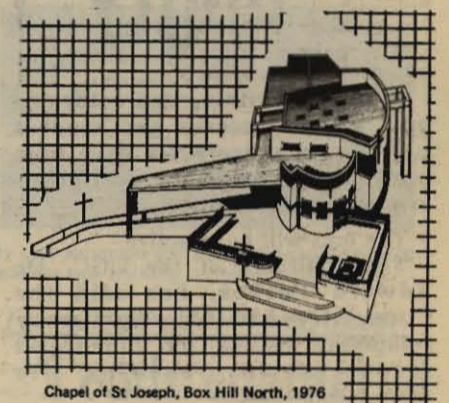
"They allude to the past while retaining an interest in doing 'something new' but in response to the structure's surroundings," he says.

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 increase their warmth and humanity has seen the re-appearance of ornament and decoration and the use 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.



Chapel of St Joseph, Box Hill North, 1976

"Hence you'll find the familiar popular element or the Classical element being used in a new, unexpected and witty way," he says.

The exciting aspect about the best post-modern work is that it can be interpreted in different ways, he says.

"Each building carries two layers of meaning — the popular and the scholarly.

"On one hand the building carries references to the work of past architects or builders which can be read by fellow architects and an educated clientele. But even without a specialised knowledge, a person in the street can respond to the building because there are more elements in it that will be familiar.

"Modern architecture kept the educated client only in mind."

Conrad Hamann returned to Australia last year after nearly three years in the United States where he travelled on a Harkness Fellowship.

He wrote his Ph.D. thesis, which was completed in the Visual Arts department at Monash, on the work of Roy Grounds, Frederick Romberg and Robin Boyd, partners in a Melbourne architectural firm from 1953 to '62. He has also studied the influence of national sentiment on Australian architecture.

'Post-modern' Melbourne

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

- Keysborough-Glen Waverley**
(Edmond and Corrigan)
Buildings for the Parish of the Resurrection, Corrigan Road, Keysborough:
● Parish Centre, 1975.
● Church of the Resurrection, 1976.
● Primary School, 1976-78.
● Caroline Chisholm Terrace, 1979.
(Norman Day)
Carroll House, 4 Macleod Place, Glen Waverley, 1981.
- Box Hill — Kew**
(Edmond and Corrigan)

Chapel of St Joseph, Holy Redeemer Parish, Strabane Avenue, Box Hill North, 1978.
McCartney House, Rockingham Close, Kew, 1981.

(Norman Day)
Pizzey House, 32 Laver Street, Kew, 1976-81.

Toorak-Malvern
(Norman Day)
Rosenes House, 17 Lambert Road, Toorak.
L. Radic house additions, 2 Gaynor Court, Malvern.
Two new houses under construction which make an interesting comparison: (Cocks and Carmichael) Hopetoun Road, Toorak; (Max May) Russell Street, Toorak.

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.

He said that society's expectations of what the health profession could achieve were largely the product of political rhetoric.

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 expenditure.

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



● Dr Barry Catchlove

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, overall, they are giving their patients a better quality of life. But it is a subjective assessment.

Dr Catchlove said that data on quality of life is practically non-existent in medical literature.

He described an objective approach — a simple quantitative measurement — 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.

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, from good to poor.
- 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 and the Philosophy Society will be held on August 5 in R3 at 1.10 p.m. Dr Robert Young, senior lecturer in Philosophy at La Trobe University, will talk on "Doing the Right Thing by the Dying".

On the following day — same time and venue — Dr Bernard Clark, director of the intensive care unit at St Vincent's Hospital, will speak 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.

U.K. cuts draw angry response

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 weigh 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 have an "extremely serious" impact on both numbers and standards.

The Committee of Vice-Chancellors and Principals issued 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 get in 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."

These 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 1983-84/1984-85.

- 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 4 per cent, Oxford 3 per cent and Cambridge 2 per cent.

The Government expects the universities to offset their loss of income by whatever can be recovered in fees from overseas students but the Vice-Chancellors say that this will amount to little.

Rocks hold key to lunar secrets

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 4500 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.

But magnetic fields occurred where the crust was broken by impact.

Professor Runcorn said the heat sources to melt the moon and to drive the dynamo were a matter of controversy but super-heavy elements had been suggested.

"Determination of the 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."

Classic paper

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.



● Members of the Monash University Choral Society, (left to right) Libby Nottle, Katie Purvis, James Rigby, Mira Hariheran, (front) Lisa West, Cathy Nihill and Jane Stott, hold an impromptu rehearsal for their Open Day Concert. They will present a selection of "serious and silly songs" in the Arts and Crafts Centre between 1.30 and 2 p.m. today.

Centenary of women undergraduates

This year's annual dinner of the Australian Federation of University Women-Victoria will mark a special occasion — the centenary of the first women beginning degree courses at the University of Melbourne.

The dinner will be held in the upstairs dining room of the Melbourne University Union on September 23, 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.

Important dates

The Registrar advises the following important dates for students in August:

- 1: Open Day.
- 3: Third term begins for Medicine VI (Alfred students).
'Application to Graduate' forms are now available from Student Records for Bachelor degree candidates in their final year who expect to qualify for their degree at the forthcoming annual examinations and who wish to have their degree conferred at a graduation ceremony in 1982. Bachelor degree candidates must apply to have their degree conferred. Forms should be lodged at Student Records by the beginning of third term.
- 8: Second term ends.
Second term ends for Master of Librarianship.
- 14: Second term ends for Dip.Ed.
- 15: Break begins for LL.M. by coursework.
- 22: Second term ends for Medicine IV.
- 24: Study break begins for B.Ed., B.Sp.Ed., Dip.Ed.Psych. and M.Ed.St.
- 31: Third term begins.
Third term begins for Master of Librarianship.
Second half-year for LL.M. by coursework resumes.
Last day for discontinuance of a subject or unit taught and assessed over the whole of the teaching year for it to be classified as discontinued (excluding Dip.Ed.Psych., B.Ed., B.Sp.Ed., M.Ed., M.Ed.St., and Medicine IV, V and VI). If a subject or unit is not discontinued by this date, and the examination is not attempted or assignment work is not completed, it will be classified as failed. In exceptional circumstances the Dean may approve the classification of a subject or unit as discontinued between August 31 and the end of the appropriate teaching period.

Fullagar Lecture

The distinguished British legal academic, Professor S. F. C. Milsom, will deliver the 10th Wilfred 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.

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

The Registrar's department has been advised of the following scholarships. The Reporter presents a precis of the details. More information can be obtained from the Graduate Scholarships Office, ground floor, University Offices, extension 3055. Commonwealth Scholarship and Fellowship Plan Awards 1982

Graduates with good honours degrees who are Australian citizens, under 35 years of age, may apply for one of these awards. Benefits include return fares, tuition fees, living and other allowances. Tenable for two-three years.

Applications close at the Graduate Scholarships Office for these countries on the following dates: Sri Lanka, August 21; Uganda, October 16; Canada, Ghana, Hong Kong, India, Jamaica, Malaysia, Malta, Nigeria, Trinidad and Tobago, United Kingdom — September 30.

Shell Postgraduate Scholarships in Arts, Engineering and Science

Tenable in the United Kingdom for two years. Benefits include return fares, fees, accommodation and other allowances. Applications close in Melbourne, September 25.

Gowrie Postgraduate Research Scholarship

Tenable for up to two years. \$3500 p.a. stipend. Applications close October 30 at Monash.

Disabled student union launched

A Monash Arts/Law student, Steven Hurd, has founded and is first president of the Australian Disabled Students Union.

The Union hopes to attract as members disabled students at both secondary and tertiary level as well as teachers, academics and other interested people.

Vice-president of ADSU is Glen Patmore, an Economics/Law student at Monash.

The Union was launched at a public meeting held in Robert Blackwood Hall last Tuesday after a false start the previous week caused by SEC power restrictions.

The Union has as its aims:

At secondary level,

- To offer support, encouragement and advice to students with any disability.

- To advise and assist teachers on the needs of such students.

- To represent these students to governmental bodies in relation to education rights and the like.

At tertiary level,

- To represent disabled students to university administrations.

- To promote a coherent approach to the treatment of such students in all educational institutions.

- To offer advice to university staff and committees on these students.

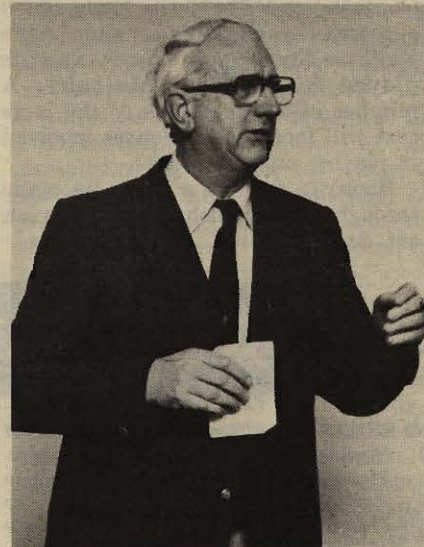
- To offer support and advice to students by circulating ideas nationally.

Says Steven Hurd: "We also believe that we can change the public image of disabled people by channeling information to the public through the media.

"They will have a solid organisation to deal with and not a charity handing them 'hard luck' stories.

"With this new approach to the issue we are convinced that when people see disabled students and others for what they are — a group within the community trying to take its rightful place — we will really be able to get things done."

For further information contact ADSU c/- Room 223 in the French department at Monash or phone the Clubs and Societies Office (ext. 3144). There is a \$2 joining fee for members.



Doug holds the 'key to Monash'

Deputy Warden of the Union, Mr Doug Ellis, last month notched up 21 years' service at Monash and hospitality was extended by the Sports and Recreation Centre to celebrate the anniversary. Well-wishers included a handful of people who were on the staff when Doug joined as laboratory manager in chemistry.

Deputy Comptroller, Mr Ian Tate, gave a light-hearted account of Doug's Monash chapter, and then Doug had just a few words himself to say . . .

'Caltex woman graduate': applications invited

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 \$7500 (Aust) per annum, together with a travel grant of up to \$1000.

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 Officer, 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.

These Monash activities are open to the public — and you're invited!

A play of stature

Edward Bond's "Lear" — rarely performed because of the technical demands it makes and the size of its cast — will have a season at Monash's Union Theatre from August 4 to 8.

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's" first production at London's Royal Court Theatre in 1971 was highly controversial.

Mr Fitzpatrick says: "It was hailed by some critics as the most important play to have emerged from the modern British theatre, rejected by others as a play doomed because of its overblown ambitions, and received by others again as 'the kind of play which gives failure a good name'."

Since then, the play's stature has been generally confirmed — even though its 80 speaking roles make it 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 precondition for the genuinely heroic 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 ways 'Lear', for all its moments of ugliness and Monty Python grotesqueries, is centrally about an idea of beauty."

He says that Bond twists Shakespeare's "King Lear" plot in many new directions, "most of them unrecognisable as versions of the great 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 such moments must always be — the moment of heroism at the end of 'Lear' remains a little ambiguous."

The cast includes a number of actors who have had experience in previous student productions.

Noel Sheppard takes the demanding title role, and Helen Pastorini and Diana Nobbs play the ugly sisters Bodice and Fontanelle, his dreadful daughters. Virginia Lee, as Cordelia, leads the Purity Party which succeeds Lear's régime, and Lear's Fool, the Gravedigger's Boy's Ghost, is played by Michael Mulcahy. A number of the members of the large cast will face the challenges involved in playing multiple roles.

Bookings for "Lear" can be made through the English department on ext. 2140.



The Astra Chamber Music Society will present a concert in the Monash Religious Centre on Thursday, August 13 at 8.15 p.m.

The concert of 20th century music will feature the Astra Choir conducted by John McCaughey, of the Music department at La Trobe University,

accompanied by Elizabeth Chappel. Solo pianist will be Keith Humble.

The works being performed are by Max Reger, Alban Berg, Chris Mann/Warren Burt and Donald Martino.

Tickets cost \$6 and \$3 and will be on sale at the door. Bookings: 20 5837/543 1926.

Wind trio

The 10th free Sunday afternoon concert series will begin at Robert Blackwood Hall on August 9 with a Wind Trio by courtesy of the Australian Elizabeth Theatre Trust.

The second concert in the sequence will be a recital by John O'Donnell on the Ahrend Organ.

The third concert on August 23 — a program for harp and strings — will feature members of the Melbourne Symphony Orchestra, including harpist Huw Jones and violinist, Ann Martonyi.

The second sequence opens on September 27 and will feature violinist Donald Scotts and pianist Margaret Schofield.

October 4 will feature Jochen Schubert, guitar, and Thomas

Pinschof, flute, and the series will conclude on October 11 with the Gordon Webb Brass Ensemble, by courtesy of the Victorian College of the Arts.

All concerts will begin at 2.30 p.m. The programs have been designed for the whole family. The Waverley Council and Australian Broadcasting Commission are assisting in staging the concerts.

MONASH REPORTER

The next issue of Monash Reporter will be published in the first week of September, 1981.

Copy deadline is Friday, August 21.

Contributions (letters, articles, photos) and suggestions should be addressed to the editor (ext. 2003) c/- the information office, ground floor, University Offices.

AUGUST DIARY

The events listed below are open to the public. 'RBH' throughout stands for Robert Blackwood Hall. There is a BASS ticketing outlet on campus at the Alexander Theatre.

1: SATURDAY CLUB (Red Series, 5-8 year-olds) — "The Dragon and the Mandarin." 2.30 p.m. Alex. Theatre. Admission: adults \$4, children \$3.

1, 6, 7, 8: MUSICAL — "Balalaika," presented by Heritage Musical Theatre of Waverley. 8 p.m. Alex. Theatre. Admission: adults \$5.50, children and pensioners \$3.50. Bookings: 375 1925, 876 1061. Saturday matinee August 8 at 2 p.m.

2: CONCERT — "An Evening with Dennis Olsen and Norman Yemm." 8 p.m. Alex. Theatre. Admission: \$7.50. HSC LECTURES in Economics. 9.45 a.m.-4.30 p.m. RBH. Admission free.

3: LUNCHTIME CONCERT — The World Rhythm Band. Jeff Pressing — keyboard, voices, percussion; John Barrett — saxophone, flute, clarinet; Jeremy Alsop — bass; Peter Blick — drums; Alex Pertout — percussion. Featuring West African, jazz and contemporary music. 1.15 p.m. RBH. Admission free.

CONCERT — "Brazilian Music," presented by department of Spanish. 8 p.m. Alex. Theatre. Admission: adults \$3, students \$2.

MIGRANT STUDIES SEMINAR — "Membership of a Minority Group — Continuity and Change over Generations," by Dr Barbara Falk, History, Melbourne University. 7.30 p.m. Lecture Theatre R3. Admission free. Inquiries: exts. 2825, 2925.

3-31: EXHIBITION of work by tutors at the Arts & Crafts Centre. Weekdays 10 a.m.-4 p.m. Arts & Crafts Centre Gallery. Admission free. Inquiries: ext. 3096.

4: SEMINAR — "Legal Responsibilities of Medical Practitioners." 12: "The New Planning Appeals Board." 31: "The New Sexual Offences Act." Pres. by Monash Faculty of Law. Law Institute of Victoria, 470 Bourke Street, Melbourne. Further information: ext. 3377.

4-8: PLAY — "Lear," by Edward Bond, directed by Peter Fitzpatrick. 8 p.m. Union Theatre. Admission: adults \$2.50, students \$1.50. Bookings, inquiries: ext. 2140.

4-31: ARTS & CRAFTS — printing colour slides, drawing, silk screen printing, and many other courses commence during August. Phone ext. 3096 for free Spring brochure.

5: WILFRED FULLAGAR MEMORIAL LECTURE — "The Past and the Future of Judge-made Law," by Professor S. F. C. Milson, Cambridge. Presented by Monash Faculty of Law. Alex. Theatre 8.30 p.m. Admission free. CONCERT — ABC Monash Series No. 4: The Melbourne Symphony Orchestra conducted by Patrick Thomas; Gweneth Pryor — piano. Works by Noskowski, Bartok, Dvorak. 8 p.m. RBH. Admission: adults A. Res. \$9.50, B. Res. \$7.70, C. Res. \$5.70; students and pensioners A. Res. \$7.70, B. Res. \$5.70, C. Res. \$4.80. Please note: no concessions on day of concert.

SEMINAR — "Doing the right thing by the dying," by Dr Robert Young, Philosophy, La Trobe University. Pres. by Centre for Human Bioethics/Philosophy Society. 1.10 p.m. Lecture Theatre R3. Admission free. Inquiries: ext. 3266.

LECTURE — "The role of traditional healers in Indonesia today," by Boedihartono, University of Indonesia;

"What does modern medicine offer to the Javanese villager?" by Ken McLean, department of Medicine. Co-sponsored by Centre of Southeast Asian Studies and the Australia-Indonesia Association. 8 p.m. Lecture Theatre R4. Admission free. Inquiries: ext. 2197.

6: ABORIGINAL STUDIES LECTURE — "Aborigines and the Law," by Mr Mick Dodson, 1 p.m. Lecture Theatre R6. Admission free. Inquiries: ext. 3335. 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. 3266.

8: 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 and pensioners \$2.

9: SUNDAY AFTERNOON CONCERT — Elizabethan Brass Trio. Robert Smithies — trumpet; Richard Runnels — horn; Philip Davis — trombone. Works by Purcell, Narrows, Nelhybel and Poulenc. 2.30 p.m. RBH. Admission free.

11-16: MUSICAL — "Pirates of Penzance" with Dennis Olsen and Norman Yemm. Presented by Melbourne Music Theatre. Alex. Theatre 8 p.m. Admission: adults \$10, pensioners \$8. Sunday matinee August 16 at 2 p.m.

12: HSC ACCOUNTING LECTURES presented by department of Accounting and Finance. 9.30-11.30 a.m. Lecture Theatres R1 & R4. Admission free. Inquiries: ext. 2389.

SEMINAR — "Management Compensation Schemes," pres. by department of Accounting and Finance.

Registration fee: \$65. Further information: Mrs L. McCusker, ext. 2324.

13: CONCERT — Astra Choir with pianist Keith Humble. 8.15 p.m. Religious Centre. Admission: \$6, \$3. Tickets at the door or ring 20 5837, 543 1926.

15: SATURDAY CLUB (Blue Series, 8-13 year-olds) — "The Edmonton Youth Orchestra." 2.30 p.m. Alex. Theatre. Admission: adults \$4, children \$3.

CONCERT — ABC Instrumental and Vocal Competition Commonwealth Final. 7.30 p.m. RBH. Admission free. Entree cards available at Robert Blackwood Hall or ABC, 10 Queen Street, Melbourne.

16: SUNDAY AFTERNOON CONCERT — Organ Recital by John O'Donnell. 2.30 p.m. RBH. Admission free.

17-19: SHORT COURSE — "Project Management and Computers," pres. by department of Econometrics and Operations Research. Course fee: \$295. Further information, reservations: Mrs Dorothy Jones, ext. 2441.

SEMINAR — "Industrial Marketing Strategy," pres. by department of Administrative Studies. Registration fee: \$425. Further information: ext. 2397.

19: CONCERT — Syndal Technical School Music Evening featuring an 80-piece orchestra and artists. 8 p.m. RBH. Admission: adults \$3, children \$1.

23: SUNDAY AFTERNOON CONCERT — Huw Jones — harp; Anne Martonyi — violin; David Shafir — violin; John North — viola; Philip Green — cello. Works for Harp and Strings. 2.30 p.m. RBH. Admission free.

24-SEP. 5: SCHOOL HOLIDAY ATTRACTION — "The Magic Pudding" Marionettes. 10.30 a.m. and 2 p.m. Alex. Theatre. Admission: adults \$6.50, children \$4.50.