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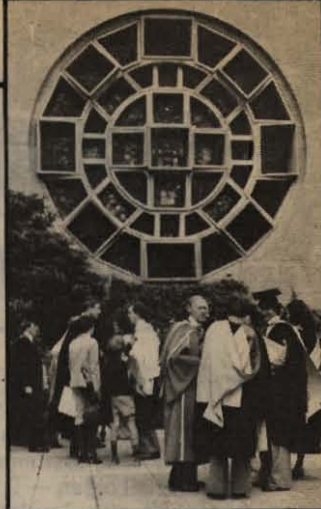
GRADUATES' ISSUE

Monash University's teaching now spans two decades. The University's graduate body today is large and widely dispersed — not the homogeneous group of 1964 which received Monash's first degrees.

But the graduate of '64 shares with the graduate of '79 some aspects of "the Monash experience": study in the same subject areas, in the same buildings and, most importantly, under some of the same members of staff.

In a bid to revive memories of that experience (for better or worse!) and to keep graduates informed on Monash's activities, this issue of *Reporter* — the last for 1979 — is being mailed to all graduates, as the November issue has been for the last two years.

A special Year in Review section starts on page 9.



Morning Glory

Melbourne meteorologists have been on an expedition to the Gulf of Carpentaria "in pursuit" of tropical Australia's unique, spectacular cloud form, the Morning Glory. They believe they now know about its origin and structure. Story and pictures page 3.



Human rights

Monash lawyer, Professor C. G. Weeramantry, is a Sri Lankan. He recently spent a month visiting Stellenbosch University, heart of Afrikaner culture, in South Africa. Professor Weeramantry evaluates human rights in South Africa — and the country's future. Story starts page 7.



ARGC grants

Monash University will receive \$1,215,799 in research funds from the Australian Research Grants Committee in 1980. This is an impressive 25 per cent increase over the 1979 figure of \$971,896. A full list of the grants to 138 projects starts on page 14.



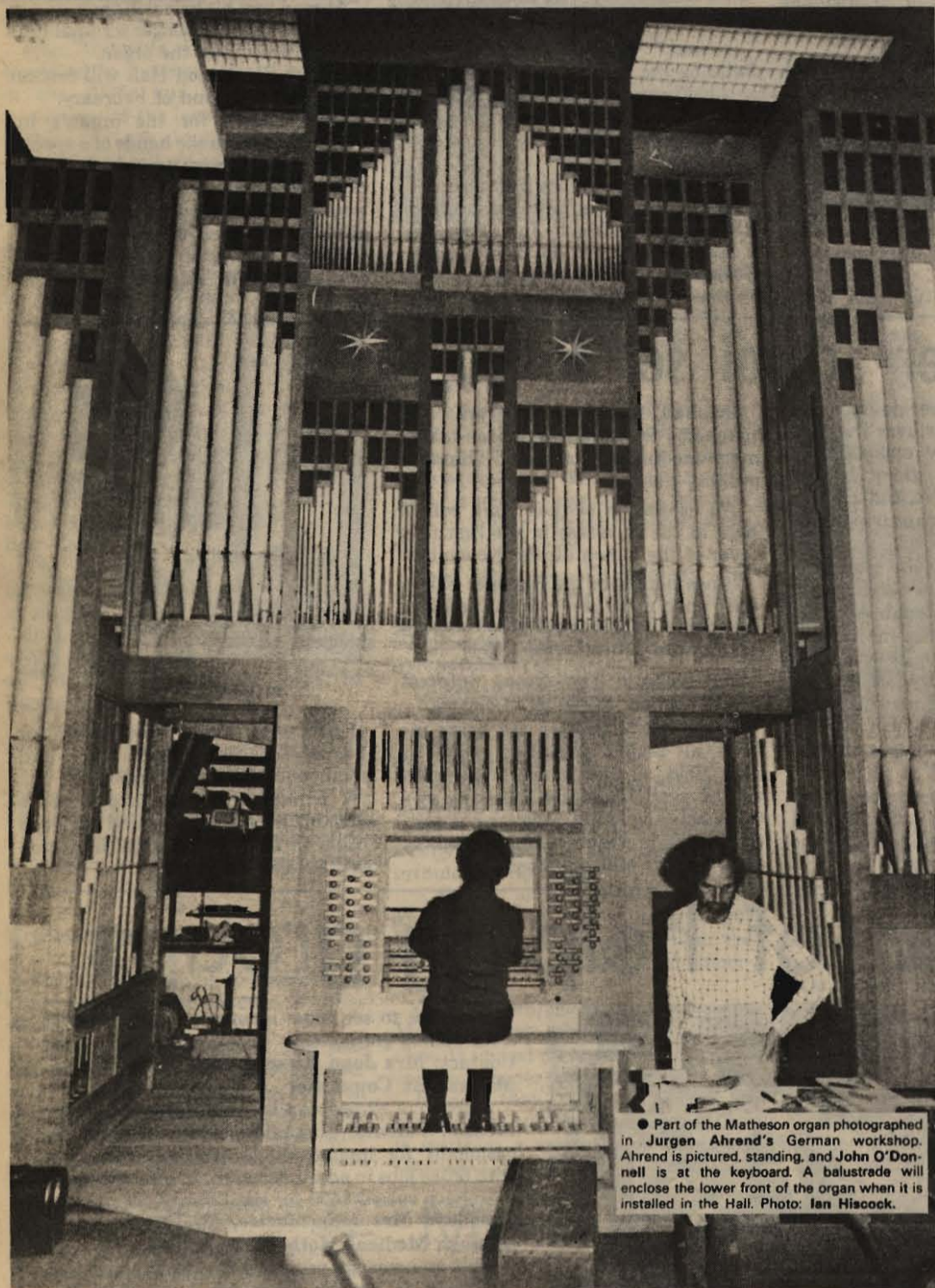
Next triennium

Monash Council recently approved the University's submission to the Universities Council for the 1982-84 triennium. The submission aims to show the directions Monash expects to take in the 80s — research and research training are emphasised. A submission summary is on page 16.



Monash authors

Two new books by members of the English department focus on Australian drama and the world of two authors of beloved children's books. Reviews of *After "The Doll"* and *Seven Little Billabongs* appear in a books section on pages 18 and 19.



Part of the Matheson organ photographed in Jurgin Ahrend's German workshop. Ahrend is pictured, standing, and John O'Donnell is at the keyboard. A balustrade will enclose the lower front of the organ when it is installed in the Hall. Photo: Ian Hiscock.

Matheson organ on way to RBH

The organ being built for Robert Blackwood Hall by German builder Jurgin Ahrend is finished and is being shipped to Melbourne this month.

The organ will commemorate the work of Monash University's first Vice-Chancellor, Sir Louis Matheson. A total of \$321,000 was raised by public subscription in 1976 to fund the project.

The Governor-General, Sir Zelman Cowen, will inaugurate the organ at a ceremony on the evening of Tuesday, April 22, before an invited audience including Sir Louis and Lady Matheson

and donors. Special music events featuring the organ will be held during the opening week.

Two Monash academics and a leading Melbourne organist have seen the organ in Ahrend's workshop in Leer in the north-west of the Federal Republic of Germany. All speak in superlatives about its appearance and sound.

Senior lecturer in Zoology and Director of Robert Blackwood Hall, Dr Ian Hiscock, and senior lecturer in Music at the Victorian College of the Arts, Mr John O'Donnell, visited Ahrend's workshop in September.

Installation

Dr Hiscock went to finalise contractual matters with Ahrend, discuss transport and work out technical details to allow site works in RBH, in preparation for the organ's installation, to be carried out. Mr O'Donnell,

until recently organist at St. Peter's, Eastern Hill, has been the consultant on the organ project.

Professor of Civil Engineering, Professor Noel Murray, visited the workshop while in Germany earlier in the year.

Mr O'Donnell calls the finished instrument "a masterpiece".

He points out that an organ's sound relies as much on the room it is part of as on the instrument itself but says that, even in the workshop, it produced "a very thrilling, exciting sound".

Continued next page

APRIL INAUGURATION FOR MATHESON ORGAN

● From page 1.

Mr O'Donnell says the organ — which he calls Melbourne's first major concert hall organ — is being viewed as a significant landmark in organ building this century.

He says that Ahrend has a reputation as one of the world's master builders and restorers.

With 43 stops, the Monash instrument is the largest organ Ahrend has built and, coincidentally, is his work no. 100 (including restorations and new constructions) in 25 years of business. Ahrend is 50 next year.

Mr O'Donnell says the stamp of the Matheson organ is simplicity.

He says: "The concept of the mechanism is absolute simplicity and the player feels this. A very impressive feature, too, is the finely responsive action of the instrument."

He says that Ahrend is renowned for his reed stops.

"These are particularly colorful and individual on this organ," he says.

Dr Hiscock reinforces Mr O'Donnell's description.

"It is a magnificent looking instrument," he says. "What impresses me is that its beauty owes so much to simplicity. It is devoid of frills and fuss. This is particularly evident with the console and keyboard."

He says the quality of workmanship throughout the organ is another outstanding feature.

Dr Hiscock describes the timber used in the organ as "a beautifully grained pale oak which should blend perfectly into the Hall".

He describes the organ as a great resource for RBH which has an es-

tablished reputation for acoustics and comfort.

Professor Murray calls the organ a work of great craftsmanship.

As an engineer, he says, he was intrigued by the use of traditional methods and materials in its construction.

He says that Ahrend, who has worked on the restoration of centuries-old organs throughout Europe, has obviously acquired a close understanding of traditional building methods.

"He has examined the use of materials and observed how they have behaved over centuries and applied this knowledge to his own constructions," he says.

Jurgen Ahrend and his team of six



● The Matheson organ ... 'no frills, no fuss'.

"artisans" have spent 12 months building the Matheson organ.

It has been disassembled and packed into crates which are being shipped in a container from Bremen to Melbourne.

Responsibility for its transport door to door, from the Leer workshop to RBH, is being taken by Inter Naciones, a body funded by the West German Government which promotes cultural exchanges between the Federal

Republic and other countries. Inter Naciones' sponsorship follows the efforts of the Consul-General of the Federal Republic of Germany in Melbourne, Dr F. J. Kroneck.

The organ is scheduled to arrive in Melbourne mid-December.

Ahrend and his foreman, Herman Schmidt, and their wives are due to arrive in Melbourne in the last week of December and will start work on re-assembling and installing the organ early in January. This work is expected to take about four weeks.

Ahrend and his wife will then stay in Melbourne a while longer for final tuning and voicing of the organ.

Robert Blackwood Hall will remain closed until the end of February.

Preparations for the organ's inauguration are in the hands of a special Chancellor's committee which has an executive group and a music group working on details of the first recital and other opening week events.

Further details of this program will be published in Reporter early next year.

Summer School set to go

While Monash meteorologists look for the Morning Glory over the Gulf of Carpentaria (story opposite) an engineer has found glory in the morning closer to home and applied his artistic ability to capturing it on paper.

"Morning Glory" is the title of a painting by final year Mechanical Engineering student, Cheah Aik Pin, who held an exhibition of his Chinese and oil paintings in the Monash Arts and Crafts Centre gallery last month.

Cheah will tutor in Chinese painting at the 1979-80 Summer School. Classes will be held in late January and early February.

Other Monash people who have been finding relaxation in the arts and crafts include a group of ladies from the Union catering department.

Inspired, perhaps, by work with spaghetti, the ladies have been taking macrame tuition at a special Thursday evening class.

An exhibition of their work will be held in the showcase in the first floor foyer of the Union during November.

Since details of the Summer School were announced last month the Clubs and Societies Office has been receiving about 50 to 60 inquiries a day.

But despite the strong interest places are still available in classes.

This year 74 courses are being offered, all taught by skilled people in their field. A wide range of pursuits will be available in the following sections: arts and crafts, language, music, dance and drama, photography, poetry, sport and practical.



● Cheah Aik Pin

Enrolments are now open for Monash students and staff and members of the general public.

A Summer School brochure is available from the Clubs and Societies Office on the first floor of the Union (ext. 3144/3180).

A Who's Who of helping groups

The Vice-Chancellor's house was the venue for a "brainstorming session" with a difference last month.

Participants were representatives — all women — of a number of groups that over the years have bestowed great benefits on the University, but whose efforts have often gone unrecognised.

The meeting was convened by Mrs Rena Martin, the Vice-Chancellor's wife.

She said: "I thought it was time for us all to get together and talk about our work."

"There's a great deal we can learn from each other's experiences, and there are many ways in which we can co-ordinate our efforts, without encroaching on each other's areas."

Mrs Martin said there seemed to be five major problems or areas of interest common to all groups:

1. A falling-off in numbers of volunteers.
2. The burden of fund-raising falling on the same people each year.
3. The special problems of off-campus groups such as the Medical Mothers' Auxiliary.
4. Financial constraints — particularly the increasing cost of catering.
5. The need to focus new eyes on old problems.

Mrs Martin said there was a clear need for the various groups to make their activities more widely known. For instance, there were now more than 22,000 Monash graduates in the community, but only a handful ever turned up for functions. There might be a better response if these events were better promoted.

Here is a brief profile of the volunteer groups, their principal interests, and the people to contact:

Monash University Parents' Group

Principally a fund-raising group, its activities



● Mrs Rena Martin (left) and Mrs Brenda Holloway with representatives of volunteer groups. Photo: Rick Crompton

over the years have yielded more than \$60,000 of which \$20,000 has gone into the libraries. Organises many activities during the year, including a Paddy's Market which this year raised \$2000.

President: Mrs Wilma Atkins, 99 2574.

Monash Women's Society

Originally very active in making new members of staff feel at home. The rush of newcomers has subsided in recent years, but the Society still works in the interests of present staff members and meets regularly.

President: Mrs Margaret Krishnapillai, 544 7124.

Friends of the Monash Library

Current membership 80. Holds frequent meetings and lectures to raise funds for the various libraries.

Would like to see more members — particularly from among graduates!

Contact: Mrs Joan Kirsop, 509 7570.

Monash Ex Committee

A group of 22 people who have all served on the Monash Parents' Committee and still meet occasionally for luncheons, dinners etc. Also help with office jobs in administration. In past two years they have raised \$500 for the Library.

President: Mrs Joan Maries, 439 7391.

Monash Medical Mothers' Auxiliary

This group exists primarily to raise funds (\$4400 last year) to provide amenities for medical students, mainly in their clinical years off-campus, as well as equipment for the teaching hospitals, and to help solve problems that beset students (and their parents) at times during a long (six-year) and often difficult course.

Contacts: Mrs Joyce Bundy, 596 1487; Mrs Elsie Ferguson, 277 3483.

Krongold Parents and Friends

This group is run by parents of exceptional children — either handicapped or exceptionally bright — associated with the Dinah and Henry Krongold Centre for Exceptional Children. Their principal concern is the problems caused in the area of special education by lack of government finance.

Contact: Mrs Helen Loyall, 836 8884.

Monash Graduates Association

An entirely voluntary body, MGA is open to all graduates of Monash but currently is experiencing difficulty in attracting members. Runs a Graduates Register Scheme involved in community service work. (See article page 11.)

President: Glenis Davey, 489 7382.

Light dawns on Morning Glory

A team of meteorologists from Monash and Melbourne universities and the CSIRO has just returned from an expedition to Burketown, near the Gulf of Carpentaria in Queensland, which sought to unravel the mysteries of tropical Australia's unique, spectacular squall cloud form, the Morning Glory.

The Morning Glory was first described in meteorological literature in the 1930s but because of the remoteness of the location in which it appears — the southern and east coasts of the Gulf of Carpentaria — little detailed scientific observation of it has been carried out.

Senior lecturer with the geophysical fluid dynamics group in the Monash Mathematics department, **Dr R. K. Smith**, co-leader of the recent expedition with **Mr Reg Clarke** of the Melbourne University Meteorology department, says that data gathered on the trip has thrown light on the origin and structure of the Morning Glory about which there has previously only been conjecture. Part of the data collecting exercise involved flying in a light aircraft in to the squall cloud — believed to be the first time this has been done.

The Morning Glory is so called because of its magnificent appearance at sunrise.

It is a long cylindrical band of cloud which appears to stretch from horizon to horizon and, in fact, may be hundreds of kilometres long.

The cloud appears on the eastern skyline and moves on rapidly, rolling like a wave only backwards, and bringing with it a sudden wind squall but no rain. The Morning Glory may manifest itself in one band or a series of them which pass one after the other at a distance of a few kilometres.

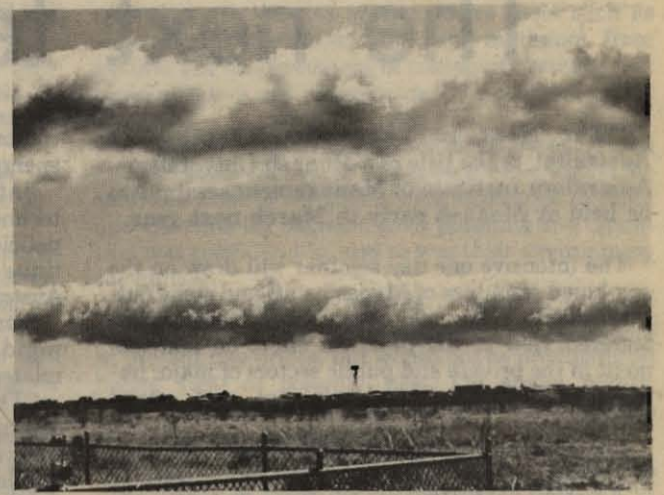
Dramatic arrival

The cloud's arrival is dramatic as there is usually an absence of other cloud.

Glories occur throughout the year but predominate between September and November when they can occur on an average of four days in 10. They usually pass over Burketown just after dawn and dissipate by early to mid-morning.

On the two-week trip with Dr Smith were, from Monash, **Mr T. Long**, geophysical fluid dynamics technician, **Karen McAndrew**, fourth year honours student in applied mathematics, and **Peter Watterson** and **Jonathan Goodfield**, both third year science students. From the CSIRO were **Mr Derek Reid**, of the Division of Atmospheric Physics at Aspendale and **Mr Richard Hagger**, a keen amateur meteorologist who acted as photographer. **Mr Roger Merridew** flew the light aircraft, a twin-engined Beechcraft Travel Air.

Mr Clarke, senior research associate in the Meteorology department at Melbourne University and, until recently, officer in charge of the Australian Numerical Meteorology Research Centre, and his wife, **Elsje**, worked in association with the Burketown group maintaining a line of recording instruments across Cape York Peninsula. **Mr Clarke** is a pioneer in the study of the Morning Glory.



The team observed four Morning Glories during the two weeks. The days on which they appeared were marked by an intensive information gathering exercise, including photographing and filming.

Data on wind speed and structure ahead of and behind the Glory was taken by tracking helium pilot balloons with special theodolites. In addition, normal temperature, pressure and humidity measurements were taken at the surface.

And, members of the team flew through the Morning Glory in a light aircraft during which measurements of temperature and humidity structure were recorded.

Dr Smith says the Morning Glory is, in structure, a density current — the air behind the squall is colder than the air which precedes it.

He says that the cloud was much deeper than he had anticipated — it could reach from close to the ground to a height of 1300m — and a good deal of turbulence was associated with it.

A feature of the air movement associated with it was a downdraught behind and an updraught at front: the air moved along in backward somersault fashion.

On one morning, **Dr Smith** says, the Morning Glory arrived in fog conditions. It sucked the fog up in to it like a vacuum cleaner.

He says that the present theory on the origin of the Morning Glory is that it starts as a sea breeze on the east



Above left: An insider's view of the Morning Glory (from the plane). Right: A series of parallel squall cloud forms roll over Burketown. Above: Members of the expedition; from left (standing): **Reg Clarke**, **Richard Hagger**, **Jonathan Goodfield**, **Karen McAndrew**, **Roger Merridew**, **Roger Smith**; (front): **Tarry Long**, **Derek Reid**, **Peter Watterson** and **Elsje Clarke**.

coast of Cape York the day before. It crosses the Dividing Range aided by the prevailing easterly winds and arrives on the west coast late in the evening as a land breeze. It propagates west breaking up in the early morning when local sea breeze circulation sets in on the southern part of the Gulf.

Dr Smith likens the phenomenon's pool of cold air spreading out over land to the cold fronts which southern Australia experiences and the cold gusty winds which arrive just before a thunderstorm.

The Morning Glory, he says, is not destructive on land but can be a

hazard to small craft on the Gulf such as the prawn trawlers which operate from Karumba, north-east of Burketown.

Similar cloud formations to the Morning Glory have been observed elsewhere in tropical regions, particularly in the confined waters of gulfs or straits, but they are usually associated with thunderstorms and more violent wind squalls.

Contributions to the funding of the expedition were made by the Australian branch of the Royal Meteorological Society and the Ian Potter Foundation.

Monash medical department aids pre-pregnancy counselling 'first'

Monash's department of Obstetrics and Gynaecology at the Queen Victoria Medical Centre is assisting the Richmond Community Health Centre in providing a new health counselling and educational program for women who are planning to become pregnant.

This free service is the first of its type in Australia. It will be staffed by a team of doctors and nurses.

The aim of the Pre-Pregnancy Counselling Service will be to assist women to improve their health before pregnancy and provide them with information about pregnancy and childbirth which, it is hoped, will ultimately contribute towards producing healthier children.

The service will consist of initial interviews with a doctor and community health nurse with, if necessary, follow-up house visits by the nurse.

Among the women who may be interested in seeking advice, the Richmond Centre lists the following:

- Women who have had a bad experience in a previous pregnancy or labour who may wish to discover the cause of the problem and how it might be overcome.
- Women who are older than average childbearing age who may wish to find out about any risks involved.
- Women with medical problems such as diabetes, hypertension, asthma or epilepsy who may wish to know the

possible effects on the foetus and their own health.

● Women who may wish to know the effects of medications they are taking, alcohol, smoking or overeating.

The Richmond Centre hopes that its new Service will make a contribution similar to the antenatal care service established in Melbourne nearly 65 years ago.

"Since that time improvement in neonatal health and reduction in the number of stillbirths has been outstanding. Maternal mortality is almost non-existent," a Centre information sheet says.

The service can be contacted on 429 1811.

Plotting Australia's future

The next ten years

"The Next 10 Years for Business in Australia" is the title of a Monash University—Australian Institute of Management seminar to be held at Monash early in March next year.

The intensive one day seminar will draw on the combined resources of Monash staff and some outside experts. They will attempt to present an integrated view of the practical effect on management in the private and public sectors of major impending economic, technological and social changes.

The seminar is being organised by senior lecturer in Economics, Dr Allan Fels, and senior lecturer in Administrative Studies, Mr Peter Bowden. Mr Bowden is a former director of the Stanford Research Institute in Australia.

Dr Fels and Mr Bowden say that the seminar is not an exercise in futurology but will focus on medium-term changes which can be foreseen with a reasonable degree of certainty and which, in many cases, are already being felt. The resulting opportunities and difficulties for management will be highlighted.

The seminar will cover a broad range of subjects.

They say: "The first session, on the economic environment in the 1980s, will include an analysis of the impact of the likely slowdown in world economic growth brought about by seemingly in-

tractable stagflation accentuated by unresolved energy problems.

"At the same time the rapid changes in demand, technology, international trade and government policies, all characteristic of the 1970s, will continue apace with some important effects on Australian manufacturing.

"On the other hand, some factors regarding world expansion will accelerate mining and energy related projects in Australia.

"The effects of the energy crisis on business and an analysis of the nature of a major boom in energy and mining production — with likely major developments including the \$3000m. North-West Shelf project, the \$2000m. Rundle oil shale project, major steaming coal developments, a number of uranium projects and a massive expansion of the aluminium processing industry — will then be examined in greater depth in a following session."

The organisers say other sessions will deal with the likely changes in marketing, industrial relations, management methods and the public-private sectors interface.

They say that one aim of the seminar will be to attract businessmen to the campus to allow an exchange of views with academics.

For further information on the seminar and enrolments contact Dr Fels on exts. 2331 or 2307 or Mr Bowden on ext. 2459.



Mr Peter Bowden (left) and Dr Allan Fels, organisers of the Monash business seminar. It will focus on medium-term changes facing Australia.

Adjusting to 'computer shock'

The rapid rate of introduction of computers, particularly minicomputers and microprocessors, presented major problems of adjustment for society, Dr Frank Larkins told a recent symposium, organised by the Royal Australian Chemical Institute.

Dr Larkins, a senior lecturer in the Monash department of Chemistry, was speaking on the impact of microprocessor technology on education and society.

Advances in technology had been of fundamental importance for recent discoveries in medical science, he said, and the quality of life had been enhanced through communications technology. But the potentially serious adverse effects of the new technology could not be overlooked.

Main issues

Dr Larkins said current concern centred around four main issues:

- The replacement of people by machines.
- The deskilling and degrading aspects of many jobs that remained.
- Centralisation of information with subsequent control of decision making and the invasion of privacy.
- The compromising of our independence and our economic and strategic security as a nation because of increased dependence on foreign technology.

This concern stemmed from two major facts — the current rate of introduction of the new technology (not the new technology itself) and the present structure of our work-force.

Throughout the century there had been a steady transformation of the Australian work-force from the rural sector to the manufacturing sector and then to the tertiary sector in response to technological change, he said.

The significant decline in employment levels in the manufacturing sector in the 1970s had been compensated for by growth in the service sector, he said. And in the past decade the tertiary sector had effectively acted as a buffer against even higher levels of unemployment.

"However, serious problems may lie ahead for us in the 1980s because it is in that part of the service sector of our economy which includes banking, insurance, communications, retail and wholesale trade, education and health services, that computer-based technology, especially microprocessors and word processors, is likely to have the greatest impact on employment," he said.

"It seems improbable that without major government-led initiatives any other sector will act as a buffer against unemployment in the service sector."

Dr Larkins said young people had had to bear "a much greater share of the adverse consequences of technological change than any other group in the community."

There was a serious lack of statistical information on the growth of computer-based technology in Australia, he said, but there was ample evidence of job replacement as a result of its introduction.

The introduction of computers into public administration had resulted in significantly lower recruitment levels by the Public Service Board, he said.

The numbers of computers in use in the Public Service had increased from 30 to 450 in the 10 years to 1977, and recruitment levels had decreased by as much as 9,000 a year in recent years.

"The computerised Public Service record system is estimated to have eliminated about 700 jobs directly and a further 800 jobs indirectly," he said.

Between 1975 and 1977 the intake of school leavers into the Australian banking system had been reduced by 40.3 per cent, he said. This reduction was due almost entirely to the introduction of computers.

"When an automatic teller system and electronic fund transfers are introduced employment levels will be further reduced," he said.

Dr Larkins said a 1978 report on the French crisis, known as the Nora report, had stated that about 30 per cent of all employees in French banks would become redundant within 10 years as computerisation increased.

The replacement of people by computer-based technology was also widespread in the Australian insurance industry, he said.

According to one estimate 20,000 typist positions had been eliminated in Sydney as a result of the introduction of word processors, he said.

The Federal Government was expected to spend about \$30 million on word processors in the next three years and private enterprise to spend about \$70 million.

"It is clear that we are potentially facing a major crisis in the 1980s," he said. "It is the young and the female labour force which will carry the major share of the burden of computerisation in the tertiary sector."

The ACTU in its submission to the Committee of Inquiry into Technological Change in Australia, had estimated that Australia could lose 1.8 to 2 million jobs in the 1980s, he said.

Dr Larkins said the Federal Government response to the impending crisis had been limited.

The time had come for governments, both Federal and State, to show more initiative in job creation programs and to take decisions designed to re-establish a strong manufacturing sector in Australia, he said.

Government's role

Australians were an inventive, creative people, he said, but we failed as a nation in the lack of application of underlying research to industry. Research in the private sector was disproportionately low compared with other developed countries, and Australian management on the whole was very conservative and unwilling to risk capital on innovative technologies.

"If private industry is not prepared to invest in the manufacturing sector and in an Australian computer industry governments will have to assume a greater role in the business sector," he said.

Dr Larkins said technological development could not be prevented but its introduction should not indiscriminate.

National planning on the rate of change was essential to maintain human self-esteem and the quality of life.

"The real cost to society, not just to the company introducing new technologies, must be evaluated," he said.

Alternatives to Middle East oil

With the prospect of reduced availability of oil from the Middle East, the US faced increasing problems of economic recession, civil disobedience in the face of rationing, and a weakening of its strategic position, Professor Lance Endersbee told a recent meeting of the Municipal Association.

Professor Endersbee, Dean of the Monash faculty of Engineering, was speaking on the transport fuel dilemma.

From the end of the Second World War to the OPEC oil embargo in 1973, he said, the consumption of oil around the world had increased six-fold.

This had made possible a pattern of economic growth that came to be regarded as normal, but had since been shown to be highly sensitive to the increasing cost of oil.

Oil prices had risen from \$2 per barrel in October, 1973, to \$21-40 (spot) announced in October by Kuwait, and further price increases and a tightening of supply could be expected in the short term.

Professor Endersbee, who had talks with Department of Energy officials during a recent visit to the US, said the US, which used twice as much energy per head as European countries and had to import 50 per cent of its oil, was particularly vulnerable to this situation.

America's imported oil came largely from Middle East countries, many of which had a history of political instability, but shared a common bond in their Islamic faith.

Concessions

From the strategic point of view, he said, it must be expected that the OPEC countries may use the oil weapon to demand concessions on behalf of the Palestine Liberation Organisation.

"Is the US predictable in its response to such a situation, especially with a Presidential election in prospect?" he asked.

From the economic point of view, he said, it must be expected that further increases in the price of oil will increase inflationary pressures in the United States and deepen the present recession.

"Most oil is bought with US dollars," he said.

"We have recently seen the steep decline in the value of the US dollar, a staggering increase in the price of gold, and a further strengthening of certain European currencies. These changes are all related to oil supply."

Professor Endersbee said the immediate concern in the energy situation was the need for our Western societies to adjust to a constant or slowly declining supply of oil in place of a steadily increasing supply.

The major mechanism of constraint on use of oil, he said, was likely to be its increasing cost.

"In view of the huge investments and long lead times required to produce synthetic liquid fuels, it must be expected that the price of oil will continue to rise," he said.

"The United States has passed its peak in domestic oil and gas production and will be increasingly dependent on imports.

"The high prospective US demand for oil imports is a matter of profound concern for all the other oil importers, particularly with prospects of limited oil supplies in world trade.

"The increasing dependence of the US on imported oil must erode, to some degree, that country's strategic credibility."

Ultimately, liquid fuels produced from coal, tar sands and oil shales, alcohols and other organic fuels would provide a greater proportion of the world's liquid fuel needs, he said. In Australia, the development of oil shales was the most promising. But because of the time lags involved these various alternatives were not likely to make a significant contribution until the next century.

Conservation

"Conservation of oil and more economic use of liquid fuels is the only immediate response available while time is gained to develop, fund and construct the liquid fuel plants to extend and supplement the present supplies," he said.

Professor Endersbee said responsibility for energy matters in Australia resided largely with State governments, which, with the exception of Queensland, were already active in promoting oil conservation and were co-operating with the Federal government in its proposed Conservation of Energy Program.

A major exploration program was underway on the North West Shelf of Western Australia, where two drilling ships, costing \$120,000 a day each, were drilling for oil through 1500 metres of water, he said.

A number of conservation measures had already been introduced.

These included:

- World parity pricing of Australian oil to refineries.
- Proposed changes in the octane rating of petrol.
- A review of vehicle exhaust emission standards.
- Adoption by the motor car industry of agreed fuel economy goals — engine modifications which would produce a 30 per cent improvement in 5 years.
- Encouragement of the use of LPG.

Other conservation measures which could be introduced, he said, were the increased use of diesel

engined cars, the use of alternative fuels such as ethanol, produced from crops, and methanol, from natural gas, improvement of transport systems, and more effective use of motor cars — car pooling, for example.

Australia's long term supplies of coal were assured and prospects for coal to oil conversion were good, he said, but coal to oil plants were expensive to build and the time lag between their planning and operation was considerable, and so was their environmental impact.

Two such plants, to provide 10 per cent to 15 per cent of our oil needs, would cost about \$8,000 million at present day prices, but would not be producing oil before 1990 or possibly 1994. Oil shales plants, however, could be on line much earlier, but these were also very expensive.

Electric vehicles offered a means of reducing dependence on imported oil, and also of reducing air pollution in central city areas, he said. But there were definite limits to their development using present-day lead-acid batteries.

Major development was likely to come only with the development of more advanced types of batteries.

"It is to be anticipated that the major motor car manufacturers will be including electric cars within their normal production range within the next five years," he said.

"The timing will depend on progress in battery development in relation to the changing cost of motor spirit."

Growth

Professor Endersbee said that apart from oil Australia was energy rich. And many industries around the world, especially energy intensive industries, were looking to Australia as a location for future growth.

"There is a strong international interest in Australian energy resources," he said. "Other nations are seeking to sell their technology for our minerals."

Australia was handicapped by a shortage of technicians and engineers, he said, and this situation was worsening. In 1983, he said, Australia would be graduating 30 per cent fewer engineers than in 1978.

This trend would have to be reversed and the most intelligent students attracted to the profession if industry was to operate at a modern level of technology and competitive international cost levels.

"We must not oppose technological change," he said. "We must recognise the opportunities it creates."

Monash next year will introduce a restructured course in electrical and computer systems engineering aimed at correcting an imbalance in present computer courses.

It will treat computers as total systems, consisting of both hardware and software, and will be taught jointly by staff in the departments of Electrical Engineering and Computer Science and the Monash Computer Centre.

Systems aspects

Announcing the new course, Associate Professor W.A. Brown, of Electrical Engineering, said that most computer science courses concentrated on software.

"In addition to the traditional electrical engineering subjects, our course will emphasise the systems aspects of computers," he said.

"These include not only program-

Computer education for the eighties

ming and software, but also hardware and its interdependence with software that is so essential for the successful installation, maintenance and efficient utilisation of all computer systems, ranging from mainframe size to microprocessors."

The course, the first of its kind to be offered in Victoria, is recognised by the Institution of Engineers (Australia) and leading professional bodies overseas.

Associate Professor Brown said that, by including in equal amounts courses on both the working and design of hardware and software, students would gain a deeper insight and overall competence, not only in the computer

area, but also in their chosen areas of specialisation in electrical engineering.

"The job market for graduates is expected to be very wide and varied because of the introduction of computer technology in many areas," he said.

"Current trends indicate that there will be an increasing demand for such combined skills in electrical engineering and computer systems in energy systems, telecommunications, manufacturing industry, medical electronics and scientific equipment design.

"The new course will include a variety of subject choices.

"First year subjects, common to all

branches of engineering, are developed in second year into subjects in computer engineering and computer programming, in addition to electrical circuits, electronics, energy conversion and other relevant engineering subjects.

"This emphasis on 'hardware-plus-software' continues throughout the course which, in later years, includes courses on communications, energy conversion, power systems, control systems, and computer applications in science, industry and government."

All-round skills

Associate Professor Brown said that the aim of the course was to educate professional engineers with all-round engineering and computer skills based solidly on applied science.

This was in contrast with the many sub-professional courses that aimed only at training technicians with specific skills.



● Japanese speech winners, Leonie Muldoon (left) and Penny Ward. Photo: Herve Alleaume.

Top Japanese speakers

Monash students won two of the three sections at the Japanese Speech Contest national finals held in Canberra recently.

Second year Arts/Law student, Leonie Muldoon, won the open section and third year Arts/Law student, Penny Ward, won the senior section. The third section was for juniors.

Leonie and Penny, students in the Japanese department, received return trips to Japan as their prize. Both will travel there early in December. Leonie will spend a month in Japan and Penny seven months, adding the period she would be spending there as part of her fourth year studies to her holiday.

Part of their visit will include a home stay and conducted tours in several cities of points of interest, government departments and businesses, with a possible interview on NHK TV.

Both students have been to Japan before, Leonie as an exchange student for a year and Penny on an exchange program during the Christmas holidays.

The Japanese Speech Contest is organised annually by the Japanese Embassy in Australia. It is in its 10th year.

The topic of Leonie's speech in the finals was the problems of Japanese housewives in the Australian community.

Leonie says she became aware of the problems Japanese women, mostly the wives of businessmen here for a limited time, face when she was involved in teaching them English.

She found that many would start classes enthusiastically on arrival but drop out after a short while reverting to life in Melbourne's "Little Tokyo" with very little contact with Australians. They did so because they found relations with Australians awkward.

Penny spoke on the William Ricketts Sanctuary in the Dandenongs. She says she visited the Sanctuary earlier this year with a group of Japanese. She had been impressed with its tranquility which had reminded her of Japanese gardens in style.

This is not the first year Monash students have fared well in the national finals. In 1974 Jamie Fennessy, a fourth year Arts student, won the open section; in 1976 Robyn Spence, another fourth year Arts student, won it; and last year second year Medicine student, Peta Dennington, won it.

Tips on finding a summer job

Facing a thicket of headlines daily about unemployment, students may be inclined to think they have as much chance of picking up a vacation job this summer as a politician has of picking up the recipe for economic recovery.

But the situation is not quite so bleak according to Monash's student employment officer, Julie Miller. Julie says there will be short-term jobs available but they will require initiative and persistence to secure.

Julie is currently canvassing local firms about vacation job possibilities. A "100,000 Pairs of Hands" campaign is about to be launched as a joint effort by student employment officers at Melbourne tertiary institutions to stimulate job opportunities for students during the long vacation.

Posted on board

This year information on vacation jobs will be posted on the board outside the Careers and Appointments Office on the first floor of the Union twice daily at 12 noon and 3 p.m. The notices will carry a brief outline of the job. Students will need to present their ID card at the office to get full details.

But Julie says that checking the board at Monash daily is only one path students can take in finding jobs. She suggests they contact employment officers at factories, go door-to-door to shops and hotels, visit their local CES office, ask neighbors, friends and family. At each stop they should leave their name and number where they can be contacted if there is any likelihood of a job cropping up.

Julie asks that students who obtain jobs be mindful of other students, too, and notify her office of any other job

opportunities in their place of work.

She says the weeks leading up to Christmas should be the best time for finding work. This is the period in which hotels, restaurants and stores are likely to be putting on temporary staff.

January, she warns, is traditionally a quieter month with many factories closing down for holidays. In February prospects usually look brighter.

Seek work first

Julie says: "My advice to students who intend to have a holiday and also seek work during summer is to do the latter first, straight after exams, and then have January off."

She says that students who want to work for the whole period should look to enterprises open over the festive season — milk bars, deliveries or businesses in resort areas, for example.

But she advises that it is better to take jobs as they become available — even if it means four or more over the vacation — than hold out for the elusive one that will last the whole period.

Julie has a few tips for students successful in securing a job:

- They should, if requested, be prepared to join a union. In some industries, she says, unions have stepped up their activities and require membership, mostly on a pro rata basis, of temporary workers.

- They should check their employment status — whether they are on casual or permanent staff. Different entitlements apply to different categories. Any queries about their wage should be referred to the Wage Inquiries Board.

Julie would like to hear from anyone with job offers for students. She can be contacted on ext. 3150/1/2.

Basic science needs to be appreciated: VC

While many in the community appreciated the educational role of a university its research role was perhaps less well understood, Monash's Vice-Chancellor, Professor Ray Martin, said recently.

Professor Martin said that less well appreciated, too, was the difference between two forms of investigation in the sciences: basic science, which by tradition was the responsibility of universities and their associated research centres, and applied science which was largely concerned with the application of new knowledge to human problems and which flourished in many settings including universities.

Professor Martin was addressing the 110th annual general meeting of Prince Henry's Hospital. Prince Henry's is affiliated with Monash's Medical School as a teaching hospital.

He said: "There is a striking difference between the pace of basic science and the technological advances that stem from it. Under these circumstances it is natural enough to forget or even discount the sustained effort needed and the long time required to acquire the new knowledge at the fron-

tiers of science on which technological advances are based.

"Clearly there is now a deep interest in the problem of measuring the relative cost and effectiveness of all things that are done in the diagnosis and management of disease and inevitably there is a tendency to overlook the role of basic science in the prevention of disease."

Professor Martin used the development of a vaccine against poliomyelitis — "one of the remarkable achievements of recent times" — to illustrate the role of basic research "in alleviating the ills to which man is heir".

"It was necessary first to acquire basic information about this disease and to identify the infectious agent which caused it, both examples of painstaking basic research," he said.

"Further quite brilliant basic research showed that there were three, and only three, antigenic types of polio virus and that these could be grown abundantly in tissue culture cells.

"Once this information was available, and only then, was it absolutely certain that a polio vaccine

could be made.

"The stage was now set for an exercise in applied science, a masterpiece of superbly organised and executed applied science subsequently achieved with relative speed under the brilliant leadership of Jonas Salk."

Professor Martin said that surprise and uncertainty were elements which distinguished basic science from applied science.

Ideas pooled

"Moreover the whole scientific enterprise must be arranged so that imaginative ideas originating in different minds can be pooled," he said.

"It is a fundamental responsibility of a University to provide the stimulating environment in which the sudden unaccountable aggregation of random notions and intuitions, known in science as serendipity, can best emerge from trained minds, and coalesce into that sort of creative achievement which is of immense benefit to mankind."

Professor Martin said that the twin goals of a medical school were to maintain the highest possible standards of medical care within the framework of existing knowledge and, through well directed research activity, to seek greater understanding of yet-to-be solved health problems.

"There is no doubt that the level of success achieved in attaining these goals will depend on the extent to which the universities, the teaching hospitals and the research centres associated with both sets of institutions are able to amalgamate their resources and co-ordinate their activities," he said.

Adequate funding was vital in pursuing the goals but there were other resources available as well.

Professor Martin said: "These include capacities for originality, initiative and determination in people who are firmly committed to improving the health of the Australian community. We are fortunate indeed in having so many dedicated people with these qualities in the University and in this teaching hospital."

A GIFT OF MUSIC FOR YOUNG EARS



A talented group of young musicians — members of the National Music Camp Students Association of Victoria — has been participating in programs in the Krongold Centre for Exceptional Children, at Monash, for several years.

Photographed by Graham Harris, the group on a recent visit shared their musical gifts and skills with "very able" children in an enrichment program. The group has also brought joy to children with learning and development disabilities in the Centre.

The orchestral group is formed by Tim Scott, Jonathan Carter, Jenny Hall, Prue Davis, Ian Christensen, Bruce Iken, Simon Pament, Sarah Cuming and David Pye (conductor).



A visit to human rights 'storm centre'

Monash professor of Law, Professor C. G. Weeramantry, has recently returned from a month as a visiting professor at Stellenbosch University, South Africa.

Professor Weeramantry is a Sri Lankan. He practised at the Bar in Sri Lanka for 17 years before being appointed that country's youngest Supreme Court judge ever. Since coming to Monash in 1972 in his writings and discussions he has forcefully pursued the issue of human rights throughout the world. In no uncertain terms he argued his case on the oppression of Third World peoples in his book, *Equality and Freedom*, published in 1976.

Stellenbosch is a white university at the heart of Afrikaner culture. It has produced all of South Africa's Prime Ministers except one (the present one).

When Stellenbosch's Law Faculty invited Professor Weeramantry to visit (he has a special expertise: Sri Lanka, South Africa and Rhodesia are the only countries in the world which have Roman Dutch law as the basis of their legal systems) he made two stipulations of the University authorities:

One, in teaching Jurisprudence he could range over what areas he deemed necessary, including human rights, expressing his views with complete freedom.

Two, he would not visit with "honorary white" status as he believed it was customary to confer in such cases.

He was assured that both conditions would be accepted and he is satisfied that the authorities honored their word.

Professor Weeramantry says that the reception he received from the faculty and students at Stellenbosch and other South African universities and from the Bench and the Bar was warm and cordial.

In an interview with *Reporter* about his South African experience, Professor Weeramantry makes the following points:

'Even though it is five minutes to midnight there are many ways in which the world community can act'

— Professor Weeramantry

● The reality of underprivilege of black South Africans is "far worse than could be imagined from a distance".

● There are signs of change in South Africa but, in his opinion, the Government is not moving fast enough.

● If settlement on a change in the structure of society is not reached by discussion and negotiation the bloodshed that will occur will be "on too terrible a scale to contemplate".

● Although it may be "five minutes to midnight" the world community and individuals should exert themselves more in pressing for peaceful negotiation rather than adopting an attitude of resignation. One way of doing this would be to lend support to the significant white minority in South Africa working toward change but presently ostracised with the label "white South African" and unaided by outsiders.

Moved freely

Professor Weeramantry says that he was able to move freely throughout South Africa, across racial boundaries, and gained first hand knowledge of the contrast between the living standards of the privileged and the underprivileged. He visited black urban areas such as Soweto and Alexandra.

"The reality was far worse than could be imagined from a distance," he says. "It is only by seeing these places that one appreciates the cleverness



with which the legal system has worked out the scheme of separation."

He talks of the impact of legislation such as the Group Areas law, the Pass laws, the Mixed Marriages Act and the "homelands" policy in general.

He says: "The fate of Capetown's District Six provides just one example. District Six is a large area in which, for many generations, people of all races lived side by side.

"In the 1950s the Government decided to separate the groups and move them to allocated areas. It enacted the Group Areas legislation. Upon expiry of notices of eviction the whole inhabitable area was bulldozed.

"The flattened area remains. The visible impact is something which words can't describe. The area stands as testimony to the heavy hand with which apartheid was enforced."

Professor Weeramantry describes Soweto, one more example, as a totally deprived environment offering dehumanised living conditions to about one and a half million people.

He says: "The entire town, which is in fact the largest in South Africa, has scarcely any lighting on the roads which are dirt and have no names or numbers; occasionally sewers are overflowing; and accommodation is of varying standards from what could be termed 'houses' to just makeshift shelter.

"No one has the right to own his own house so there is no pride of ownership.

Inhabitants have no right to move. Without special permission citizens of Soweto have no right to have visitors of other racial groups, negating the ability of the professional man, say, to freely return hospitality."

Professor Weeramantry says that South Africa's Pass laws created an "altogether iniquitous system causing anxiety and tension to every black citizen and consuming millions of dollars of public money".

Under the laws citizens must carry passes which contain information on their birth, employment and residence. The passes must be produced on the demand of a police officer.

"Last year a quarter of a million blacks were prosecuted under the Pass laws," Professor Weeramantry says.

"The laws sanction midnight raids into black households so that documents can be checked to make sure the inhabitants are legally in the black settlements permitted in the vicinity of big towns."

Breakdowns

Such settlements provide a pool of labour. The men who live in them work 50 weeks a year and are unable to bring their wives and children with them from home areas.

"The policy leads to breakdowns of marriages and families with the forcible separation of husband from wife and parents from children."

Professor Weeramantry says that the key feature of "Grand Apartheid", the homelands policy, is a convenient legal means of ridding white areas of millions of blacks born there. Under the policy, "independent" homelands are created to which black groups are repatriated.

"What in fact happens is that when the homeland achieves its 'independence' its black citizens lose their South African citizenship. If fully achieved it will mean that about 20 million blacks are confined to 12 per cent of the land area."

● Continued overleaf

B.Ed. summer term to meet teacher needs

Monash's Education faculty will again conduct a summer teaching program in its Bachelor of Education course during January.

The 1980 summer school for new and continuing B. Ed. students is the third the faculty has offered. The school will run from January 3 to February 1 with final papers to be submitted by February 29 and results published on March 24.

The school's convener, **Dr Andrew Spaul**, says that the summer program is modelled on North American university summer schools which were designed to meet the needs of the teaching profession.

He says the Monash program in the last two years has proved popular with students who have difficulty attending classes during normal term time — country teachers and administrators burdened by their school year workload, for example — and those who want accelerated progress through their degree.

Four subjects will be offered in daily classes. Students may take up to two. The subjects cover:

- Childhood and Educational Thought.
- Educational Administration.
- Curriculum Evaluation.
- Science Education.

Dr Spaul says that a feature of overseas summer schools, the visiting lecturer, will be introduced at the 1980 Monash school. **Professor D. C. Phillips**, of Philosophy at Stanford University, and **Dr R. G. Osborne**, of Science Education at Waikato University, New Zealand, will visit.

Dr Spaul explains the advantages of the summer term: "There is a 'hidden curriculum' to be considered: a near-empty library, on-campus accommodation, air-conditioned classrooms, regular staff-student contact, the Union's summer program including arts and crafts classes, and specials like our Australian Day lecture, 'Nationalism and the Schools', to be followed by a lamingtons and beer luncheon."

For further information contact the Sub-Dean on ext. 2829, the faculty secretary on ext. 2843 or Dr Spaul on ext. 2838.

German book donation



"A well selected and extremely useful collection," is how Monash University Librarian, **Mr Brian Southwell**, describes books donated to the Library recently by the German Democratic Republic. Mr Southwell is pictured with a selection of the books. About 100 books, representing classical and contemporary East German writing, were donated by the Ambassador of the GDR, **Dr Gerhard Lindner**.

South Africa — how the world can act

● From page 7

Professor Weeramantry says the policy of separation means each racial group is ignorant of the feelings and needs of other groups.

"Most whites do not see the reality of, say, Soweto because they cannot go there without police permission.

"At every point in society at which people might meet, such as in education or housing, they are separated.

"A whole generation is growing up in each group not knowing what is going on in the other groups.

"Take the case of universities in the Capetown area. There are three — Stellenbosch, the University of Capetown and the University of the Western Cape. Each is for people of different origins. Each student body is in a world of its own.

"There is no dialogue, no way of communicating the needs of other groups, so that people are as isolated as if they were living on different continents."

Professor Weeramantry says that he was greatly struck by the devotion and concern shown by a significant minority of the white community doing "sterling work" to alleviate the disadvantage and to alter repressive laws.

"They do this often at great personal risk, inconvenience and expense, courting banning orders and imprisonment.

"I have met ladies who were prepared to stand in front of government bulldozers about to obliterate urgently needed housing.

"It is a great pity that these white people are boycotted by the international community which ostracises them along with all other white South Africans. They need strength and encouragement."

Professor Weeramantry says that the South African government has hinted at change.

"The Prime Minister, in a series of speeches, has talked of giving to component elements of the population

their just place and of governing South Africa as a Christian country.

"He said that South Africa must change or perish, which no other Prime Minister before him has said."

Professor Weeramantry says a key change which has been talked about is repeal or modification of the Mixed Marriages Act and the Immorality Act which prohibit marriage and sexual intercourse between blacks and whites.

He says: "If marriage and sex are permitted across the color line little else in the way of segregation can be defended."

He says that talk of change has met hard line resistance from some Afrikaners, but approval from liberal whites. Black and colored groups have tended to dismiss the Prime Minister's statements as a cosmetic job not intended to bring any real structural change.

Professor Weeramantry says: "My feeling is that the government is not moving fast enough.

"The patience of blacks is fast running out. Every day people who will negotiate are moving into the camp of those who will not.

"If the situation is not settled by discussion and negotiation the bloodshed that will follow will be on too terrible a scale to contemplate."

Peaceful negotiation

He says that the world community and individuals have a role to play in pressing for change by peaceful negotiation even though there is only a "slender chance" of it happening.

"Even though it is five minutes to midnight there are many ways in which the world community can act."

He says a blanket condemnation of all things South African is probably not the answer.

"Trade boycotts are practically unworkable because many countries, including the great powers, are prepared openly to condemn South Africa but

assist by doing business with it secretly."

Pressure in carefully selected, specific areas can be of value, he says. He cites the bans on sporting teams selected on a racial basis and American trade union bans directed against the indentured labour system.

Professor Weeramantry does not see merit, however, in cultural bans — bans on exporting to South Africa literature, films, theatre and the like.

"It is necessary to expose the average South African to different ways of thinking rather than deny him this outlet and further promote the isolated Laager mentality," he says.

"While it is still possible there should be an interchange of ideas and free discussion between the outside world and South Africa."

Individual's role

He says the individual has a role to play, too.

"If the person is in a trade union he can campaign for union rights for blacks, who are deprived of trade union representation; if he is a shareholder he can object to apartheid practices in any South African involvement of the companies he has invested in; if he is a Churchgoer he might ask whether his Church has South African investments or question members of the Dutch Reformed Church on their use of scriptural justification for apartheid beliefs.

"As Amnesty International has demonstrated, the pressure of the individual letter used on a massive scale can make even governments sit up and take notice. It can certainly produce this effect on key individuals."

He suggests that people might consider, too, making a trip to South Africa, not as tourists, but to explore how they might be of assistance to

those working for change.

When asked whether his visit to South Africa could be used by the South African Government for propaganda value, Professor Weeramantry says: "My invitation came from the University, not the Government, and was a reflection of the liberalism in the law faculties in the country.

"As I have said, there are many South African whites opposed to the system and making thorough criticism of it who need support. Legal academics are some of the outstanding members of this group. **Professor Tony Weeramantry**, **Professor John Dugard**, and **Professor Barend von Niekerk**, all of whom I met, have written very critical works on the South African legal and constitutional system and have helped greatly to mobilise opinion against its iniquities.

"I believe I was able to assist in this process.

"I viewed going to Stellenbosch as a unique opportunity to reach through to potential leaders. Even if I made an impact on a small percentage of the students I feel it was worthwhile, but I am confident a significant number have been influenced. The Afrikaner society is rigidly patriarchal so a student may not go home and argue an opposing case with his father but that does not mean he is not thinking for himself."

Professor Weeramantry says that he made the visit also because the argument had been used against people who had not been to South Africa that the reality was not as bad as was often portrayed.

"I am now in a position to refute that argument," he says. "Furthermore, anyone interested in human rights adds a new dimension to his knowledge if he sees this storm centre of the concept in its reality.

"At the end of my visit one of the outstanding black leaders in Soweto told me: 'I am delighted that you have come'."

The Year in Review

A four-page feature
highlighting some of the
stories from 1979 issues of
Monash Review, Reporter and Sound

A time to sit down and think

Many times in the past year, I have been reminded of a remark attributed to Lord Rutherford: "We have no money and no apparatus, so let us sit down and think . . ."

No one is suggesting that we have quite reached the desperate stage Rutherford was describing, but we have certainly had cause to do a great deal of sitting down and thinking.

It has been a year when the financial bite has begun to be felt in many quarters, and we have had to start devising strategies to meet a whole new range of problems brought about by the "steady state".

In staffing, for instance, we have now to try to balance the reasonable expectations of staff — both existing and prospective — in terms of new appointments, job security, adequate remuneration and congenial conditions, against the ever-tightening squeeze on funds.

In teaching and, particularly, in research, we have had to seek new orders of priority so that we may gain max-

By the
Vice-
Chancellor,
Professor
Ray Martin



imum benefit from the funds available and still honour our obligations to our students and to the community generally.

But if, in the face of these growing pressures, we have learned to recognise the nature of the problems we face,

to plan their solutions, and to re-establish the proper place of universities in the educational structure, then we will have gained much from the experience.

And if 1979 has been a year of somewhat restless introspection (and much external scrutiny), it has also been one of considerable achievement and I believe we can go forward into the 80s with reasonable confidence — although I need hardly add the reservation that we shall be hoping for some more realistic and forward-looking assessment, at governmental level, of the need for a more flexible and imaginative funding policy.

In the following pages, the Reporter publishes a digest of articles that have appeared in various University publications throughout the year.

I believe it presents a picture of a university that has retained its vitality, enthusiasm and zest for knowledge and innovation — in spite of the financial difficulties imposed upon it — and, given the necessary support, will continue to justify the reputation it has already built.

Cell sorter aids cancer detection

Researchers in Monash University's department of Pathology and Immunology, Alfred Hospital, now have a laser-activated cell sorting machine — the most modern of its type in the world — which they believe will open up new avenues for disease management and cancer detection.

It will assist with the speedier cross-matching of donors and potential recipients for organ transplants.

The researchers plan to use the machine to study subtle changes in the fluorescence of lymphoid cells, the body's main defences against disease, when they are exposed to disease agents, as for example cancerous cells.

The department has already built up an international reputation for its pioneering work on the fluorescent tagging of antibodies.

According to the department's chairman, Professor Richy Nairn, the research team has found experimental evidence to show that subtle changes in white blood cells stained with fluorescent dyes, can indicate that they have come in contact with disease agents, or in the case of an organ transplant, "foreign" cells.

Details of this research were presented to an international symposium on fluorescent tracing in Vienna last year.

The machine with which they will extend their research on fluorescent lymphocytes is a marvel of modern technology.

Its purchase was made possible by the generosity of ten private benefactors who donated a total of \$150,000 for its purchase and installation.

Called a Fluorescence Activated Cell Sorter — FACS-11, and made by the Becton Dickinson Electronics Laboratories of California, the machine uses a laser beam and sophisticated electronic apparatus to count and analyse cells in various categories, by size, and fluorescence colour and intensity. These qualities induce a charge on selected cells to permit them to be physically sorted and collected in separate containers.

The FACS-11 has the capacity to sort 5000 cells a second and presents any desired analysis almost instantaneously by way of graph, digital readout and printout, and also by information storage in cassettes for later study.

ECOPS sets up Centre of Policy Studies

Monash University has established a Centre of Policy Studies in the faculty of Economics and Politics to study key political and economic issues facing Australia.

Director of the new centre is Dr Michael Porter, who resigned as professor of Economics at Monash last month to take up the post.

Dr Porter says the Centre will have only a small staff, which will act as a nucleus. It will draw most of its resources from the "considerable expertise available both inside and outside the University".

The Centre will focus on key policy issues such as energy, tax reform and Australia's response to "various international economic and political disturbances".

Rings of confidence

For Dr Andrew Prentice it was no surprise that the US National Aeronautics and Space Administration Voyager 1 probe detected a ring of rocks orbiting the planet Jupiter.

The prediction that Jupiter was encircled by a rocky satellite belt was made two years ago by Dr Prentice, a senior lecturer in Mathematics at Monash.

This prediction, and others, followed Dr Prentice's work on developing a theory about the beginnings of our solar system — how supersonic movements of gas in a primordial gas cloud allowed the planets to spin off into separate entities.

Dr Prentice based his theory partly on the ideas of the great French mathematician Laplace, whose theory had been largely debunked by modern scientists (until Dr Prentice, that is). Dr Prentice was convinced that modern astronomical findings vindicated Laplace.

He then set about developing a new theory which he supported by detailed computer calculations. This research was

done partly in collaboration with a Ph.D. student at Monash, Kerry Hourigan.

In what US space scientists claim is the most surprising result of the Voyager 1 probe, the faint satellite belt was found at a distance of two Jovian radii . . . while Dr Prentice predicted it would be four Jovian radii from the planet's centre.

In Dr Prentice's theory the planets were formed from gas rings spun off the original gas cloud. By incorporating supersonic gas movements into the computer program, it can be shown how the primordial gas cloud shed its angular momentum through the detachment of the rings.

The beauty of the theory, he adds, is apparent in that the planets, and in turn their satellites, formed co-genetically with the parent body, accounting for the chemistry of each system almost perfectly.

"The fact that the inner satellites and rings of Jupiter are rocky, like the inner planets of the solar system, is merely a reflection that it was far hotter during the final stages of the cloud's contraction."

Dr Prentice is confident that future space probes will bear out his predictions for other planets in the solar system.

Four honorary graduates

Monash admitted four people to its honorary graduates rank in 1979.

The four had distinguished themselves in quite separate fields — medicine, mineralogy, law and religion.

Among them was former Anglican Archbishop of Melbourne and Primate of Australia, the Most Reverend Sir Frank Woods, who received an honorary Doctor of Laws degree.

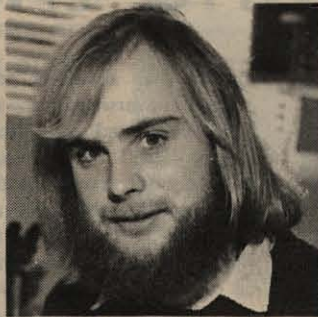
Sir Lance Townsend, who has had an impressive career in obstetrics and gynaecology and as Dean of Medicine at Melbourne University, received an honorary Doctor of Laws degree also. Sir Lance was

co-author of the Syme-Townsend Report which mapped the future organisation of health services in Victoria.

Sir James Forrest, distinguished lawyer and company chairman, received an honorary Doctor of Laws degree. Sir James was a member of Monash University Council for 10 years from 1961.

Ruth Coulsell, one of the first women mineral collectors in Victoria, received an honorary Master of Science degree. Miss Coulsell, a retired teacher, was a foundation member of the Mineralogical Society of Victoria and has been a generous donor to museums and educational institutions.

Top scholarships for three Monash graduates



Top: Ken Dyall. Left: Wendy Watts. Right: Hamish McCallum.

A Monash graduate won the Caltex Woman Graduate of the Year award in Victoria and two Monash graduates won prestigious "1851" science research scholarships this year.

Wendy Watts was named Caltex Woman Graduate early this year and will now undertake Ph.D. studies at Cambridge University.

The 1851s went to Hamish McCallum and Ken Dyall.

Wendy started her Bachelor of Science degree at Monash in 1975 after a distinguished career at Bentleigh East Primary School and McKinnon High. She was named Dux at each school.

In the three years of her B.Sc. course she gained high distinctions in every subject she tackled, came first in 10 of them and second in the eleventh.

All of this in spite of the fact that in both second and third years she took overweight courses — in third year by 50 per cent.

In 1978, while studying fourth year computer science Wendy worked as a tutor in both the Applied Mathematics and Computer Science departments.

Hamish McCallum completed a B.Sc. with first class honours in zoology last year and has now gone to London where he is studying for a Ph.D. at Imperial College.

Hamish's interest is in population ecology. For his Ph.D. he is looking at the relationship between parrots and fish, examining such aspects as the control of population over the life span and reproductive capacity of fish.

Ken Dyall intends taking up his 1851 scholarship for two years at Oxford University working in the department of Theoretical Chemistry.

Ken completed his Bachelor of Science degree with first class honours in chemistry in 1975. For the three years he has been working towards his Ph.D. at Monash.

Ken's work has been on a "formidable research problem," in the words of a senior staff member, in the Chemistry department.

Ken explains: "I have been looking at molecular atomic structure and attempting to describe the process which takes place when an electron is removed from an atom."

He has been examining the non-relativistic model of the atom and intends now looking at relativistic effects.

Only nine of the scholarships Ken and Hamish are awarded are offered to "overseas" postgraduate students each year by the Royal Commission for the Exhibition of 1851 in London.

The awards are open to students in universities throughout the British Commonwealth and in what were formerly British Dominions at the time of the great scientific exhibition in the Crystal Palace — Ireland, Pakistan, South Africa.

NASA aid for infant research

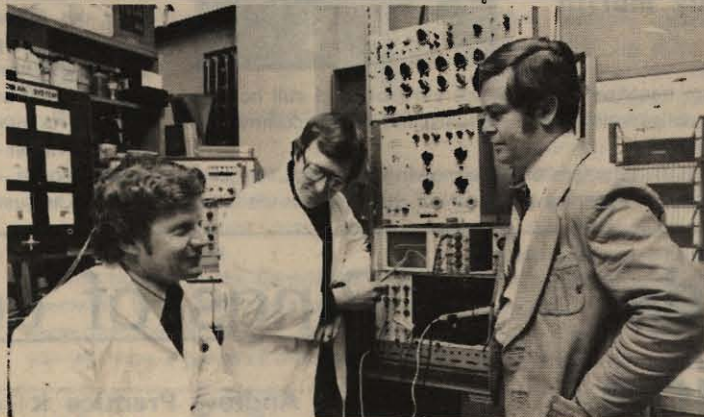
NASA and Stanford University, California, are supporting Monash University's Research Centre of Early Human Development in a study which could throw light on the causes of sudden death in infancy.

About 4000 babies die in Australia in the first year of life, most of them within the first month.

In many cases, they die of hypoxia (lack of oxygen). In some cases a child suddenly stops breathing, or an apparently healthy infant is found dead in his cot with nothing to indicate the cause of death. This is usually referred to as "Cot Death".

The causes of hypoxia, sudden stoppage of breathing and "Cot Death" are unknown, as are many other causes of sudden death in infancy.

In an attempt to throw light on these problems, the US-Monash team will plant a tiny radio transmitter beneath the skin of



● Dr John Maloney (left), Dr Adrian Walker (centre) and Mr Malcolm Wilkinson — to conduct pilot study.

foetal lambs to monitor the development of brain, respiratory and cardiac functions in the foetus, particularly during the vital periods just before and after birth.

NASA will provide the research animals and also facilities and research assistants at their bio-medical research laboratories at Moffett Field in California.

Nearby Stanford University will provide the tiny, highly-sophisticated radio-telemetry packages which will be implanted in the foetal lambs.

Dr John Maloney, director of the Monash Centre of Early Human Development, will leave for Moffett Field this month with Dr Adrian Walker, senior research scientist at the Centre, and Mr Malcolm Wilkinson, a computer expert, to conduct the three-month pilot study.

Dr Maloney says NASA's immediate in-

terest in the project is in the physiological problems arising from weightlessness.

"The most effectively weightless environment we have on Earth is in the womb, in the amniotic fluid," he says. "It is not completely weightless, but it's a micro-gravitational environment."

NASA is particularly interested in the physiological changes that occur in the changeover from a prenatal (weightless) environment to the environment at birth when the newly-born infant is subjected for the first time to the force of gravity.

The tiny radio transmitters, which will be implanted beneath the skin of the foetus about two-thirds the way through gestation, will beam information by radio waves from the foetus to an F.M. receiver linked to recording instruments and a computer.



The in

A Monash Earth Sciences student is a member of a team which has made Australia's most exciting recent dinosaur finds — and the first in Victoria for 75 years.

The finds include bones of animals never before known to have existed in this country.

Master student, Tim Flannery, together with colleagues Rob Glenie and John Long, made the initial discoveries at Eagles Nest, near Inverloch. Expeditions in the coastal area nearby, particularly between Kilcunda and Inverloch, in the last year have yielded about 60 bones or bone fragments, mostly dating back 100 to 125 million years.

The bones have been identified by Ralph Molnar, curator of mammals at the Queensland Museum, and Tom Rich, curator of vertebrate fossils at the National Museum of Victoria.

Tim says that one of the most exciting discoveries has been a footbone of an Allosaurus, an awesome carnivorous animal some 12 metres long. No other Allosaurus fossil has been identified in Australia.

Other animals identified include less startling forms such as an Hypsilophodontid (a smaller dinosaur about two metres long), a larger herbivorous Ornithomimid, lung fish and a turtle of a smaller form than is found today.

The area in which the finds have been made is not a new fossil location. It is the site of Victoria's first, and, until this year, only dinosaur bone find — by a State Government geologist, Ferguson, in 1903.

The area, although now part of Victoria's coastline, was a freshwater deposit when dinosaurs inhabited it.

Tim explains that at that time Australia was joined to the Antarctic land mass. The fossil site was once in a valley — part of a huge trough between what was to become two separate continents. The drift of Australia from Antarctica is believed to have begun 50 to 55 million years ago.

Research to improve alumina efficiency

Two research projects being carried out in Monash University's department of Chemical Engineering have produced findings which could have a major impact on energy and waste disposal problems associated with the production of alumina.

One of the projects — the development of a highly efficient dryer — also has the potential for marked cost savings in the production of oil from brown coal.

The other project revolves around the more efficient handling of 'red mud' — a waste product formed when alumina is made.

Alumina is the base material from which aluminium is electrolytically refined.

The research initiatives are being funded by aluminium groups. Comalco has supplied alumina hydrate for the drying tests while Alcoa is supporting a research student investigating red mud waste problems.

The development of the highly efficient dryer is the work of Professor Owen Potter, the chairman of the department, and a group of researchers within the department.

Professor Potter says the principal factor preventing energy economy in drying units has been the difficulty in recovering heat energy from the mixture of water vapour and non-condensable gases which flow from conventional dryers.

The dryer developed by the team incorporates multiple use of superheated steam in what are called 'fluidised beds'. By this process, gas is passed through the material to be dried so that gas bubbles separate and slightly expand the material, giving it much the same properties as a fluid.

This makes for maximum heat transfer within the material and also a rapid mixing of the material.

Professor Potter's team has already con-

structed a prototype drying plant with a capacity of up to six tonnes of brown coal or eight tonnes of alumina hydrate a day.

The development of processes for efficient handling of red mud has been the aim of the research project being carried out by Dr David Boger and Dr Peter Uhlherr and former Ph.D. student, Guillermo Sarmiento. The research student being supported by the Alcoa scholarship is Nuyen Quoc Dzuy.

The researchers say: "We found that by vigorously shearing or mixing the red mud we could break its viscosity down from around 10,000 poise (poise are a unit of viscosity) to about 50 poise, at which point it has a toothpaste-like consistency, and is easily pumpable."

The researchers add that more work needs to be done on the chemistry of the shearing and settling processes, which are extremely complex.

Monash Graduates' Association

Monash graduates have a wide range of attitudes to the University. These vary from total apathy ... through a general interest in the University ... to a desire to maintain close ties and involvement with Monash.

The University itself should and does try to encourage and maintain a link with its graduate members. At present, it does this by forwarding, once a year, a copy of *Monash Reporter* to each graduate whose address is known.

However, some graduates want to have a greater knowledge and appreciation of University activities, problems, attitudes and directions than can be provided by a once-a-year communication.

For this reason, the Monash Graduates' Association decided to use most of the income derived from membership subscriptions to pay for the regular distribution of *Reporter* to its members. By this means, it was hoped that members would be better able to keep abreast of current academic, cultural, organisational and social developments at Monash.

What else should the Association be doing?

The present committee believes that the Association should not aim to become a "club."

Indeed, at present, the Association has little to offer its widely-scattered members in terms of social activities;

nor does there seem to be a great demand for such activities.

Instead, the Association believes it should foster an interest and concern by its members in universities in general and Monash in particular.

In addition to the distribution of *Reporter*, the Association should promote interaction between graduates and the University, either directly, or through graduate representation on University bodies and organisations.

Graduate representation on the University Council, the Centre for Continuing Education and the Careers and Appointments Service are examples of such areas where graduates are contributing in this way, both as graduates of the University, and as members of the community.

The Association believes that this involvement in University activities could be extended to include graduate membership of a wide range of bodies, including, say, faculty boards, standing committees and various ad hoc committees.

Such graduate representatives would be ex-officio members of the Committee of the Association, with full speaking and voting rights. This would permit an interchange of views with members of the Association.

Together with other university graduate associations and convocations, Monash Graduates' Association is a

member of the Australian University Graduates' Conference.

This Conference meets each year and enables its members to share ideas and experiences on a wide range of issues of interest to graduates and universities throughout Australia.

Resolutions and submissions from the Conference are forwarded to the relevant bodies such as the Australian Vice-Chancellors' Committee, university councils, State and Federal Governments, and education inquiries and commissions.

There is at present considerable tension and conflict of opinion as to the proper function of universities.

There is a need for universities to be independent — but they must also be responsive to the needs of society.

Where do you stand on these issues?

We believe that the Association has a vital role to play in the life of the university and in the interaction between the university and the community.

If you share this belief, then you as a graduate and member now of the wider community have a responsibility to contribute your expertise, experience and viewpoint.

We look to you for your active participation in and membership of the Monash Graduates' Association.

Year view



Probably the largest bird ever to roam the surface of the earth — it could not fly — was unique to Australia.

The extinct bird, remains of which have been found in the Northern Territory, could have stood more than three metres high and tipped the scales at more than half a tonne, making it more massive than the Malagasay Elephant Bird.

The giant bird, *Dromornis stirtoni*, was a member of the Dromornithidae, a family which ranged in size down to a form slightly larger than the present day emu. In appearance members of the group probably resembled the emu.

But Dr Pat Rich, lecturer in the Earth Sciences department at Monash, points out that the birds (also known as mihirungs, from an Aboriginal reference) were not merely giant emus.

The Bureau of National Resources, Geology, and Geophysics within the Federal Department of National Development has published a 195-page bulletin by Dr Rich on *The Dromornithidae*. In it she gives a systematic scientific description of the family and describes for the first time six new forms, including three new genera.

Dr Rich says that emus and dromornithids probably came from common ancestral stock.

But, she adds: "Even the smallest mihirungs were not as slender as the emu and most dromornithids were apparently much more ponderous birds."

She says that fossil evidence indicates that the birds existed 20 million years ago and as recently as 26,000 years ago but these dates are not the definite limits of their existence.

● Top: Dr Rich contrasts the size of a femur of a smaller dromornithid with a similar bone from an emu.

● Bottom: Tim Flannery with one of the dinosaur finds.

earthing Australia's g dead atures



Help urged for register scheme

There are many community organisations, groups and institutions that depend upon volunteers to assist them in their work. Graduates, by virtue of their education and professional training, possess many special skills which are highly valued and sought after.

The Monash Graduate Register Scheme was founded with the purpose of making available to these organisations and institutions the names, special skills and interests of those graduates who had indicated their willingness to participate in the scheme.

At present the full implementation and effective operation of the scheme is threatened by two major problems.

Organisations which might have been aided by graduates are not able to accept the assistance unless the major part of the organisation and planning is done by the scheme's placement and liaison committee.

And this brings us to the second problem: at present, one volunteer is responsible for contacting, liaising and placing graduates over a wide variety of community organisations and institutions.

For the scheme to continue your help is needed.

An alternative administrative approach has been proposed whereby a core group of volunteers organises the co-ordination and placement of graduates for one area only. For example, graduates on the register who have indicated an interest and a commitment to assisting community organisations who provide legal advice to migrants and other groups would be responsible for ap-

pointing their own administrative group.

If you are a member of the scheme (or would like to join it) give us a little of your time and organisational ability. A meeting has been planned for Thursday, November 29, at Monash University, starting at 6 p.m. RSVP Tuesday, November 27, Mrs V. Thomson, ph. 541 0811 ext. 2002.

(For further details regarding the Graduate Register Scheme, ph. 489 7382 A.H.).

Glenise Davey,
President, M.G.A.

Anyone for a picnic?

DATE: Sunday, December 9.

ARRANGEMENTS: We meet on the shores of Lake Wendouree, Ballarat, at 12 noon. On arrival guests will be greeted by members of the committee.

WE PROVIDE: A bush band, country style voices and dancing.

YOU BRING: A picnic lunch, glasses and something to sit on. If you wish to barbecue your lunch please bring your own barbecue.

THE KIDS: Of course, there are special races just for them. In fact, bring everyone you know.

COST: \$2.50 per head (children free).

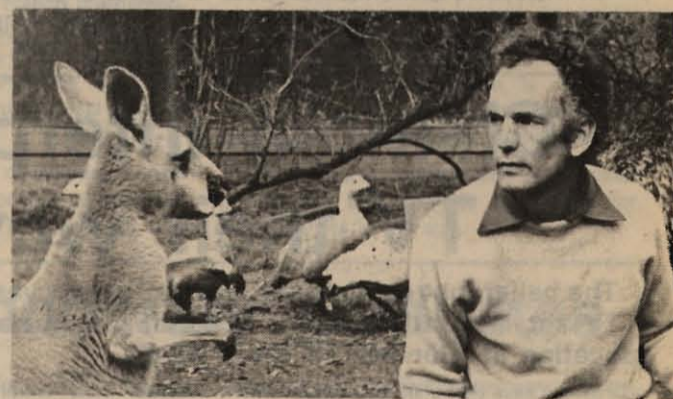
R.S.V.P. By Wednesday, December 5, for tickets and a location map. Send cheques to Mrs V. Thomson, Information Office, Monash University, ph. 541 0811, ext. 2002.

Roo's bound effortless exercise?

Have you ever been struck by the apparently effortless ease with which kangaroos bound through the bush or across the open plain?

Now a group of researchers at Monash University has found evidence that the kangaroo's hop may indeed cost relatively little effort. They believe kangaroos use a remarkable property of muscle — its elasticity — which helps conserve energy when they hop at speed.

According to one of the members of the group, Dr Uwe Proske, a senior lecturer in Physiology, recoil of elastic structures enables kangaroos to hop at high speed with minimal energy expenditure.



Dr Proske explains that all animals — man included — utilise elastic recoil. It operates through a combination of muscles and tendons, and, within a certain range of movements, allows muscles, after being initially primed with energy, to recoil in exactly the same ways as a pure spring.

Dr Proske has been studying elastic recoil in muscles and tendons in collaboration with Di Warren, a former M.Sc. student at Monash and Dr David Morgan, a former senior teaching fellow in the department of Electrical Engineering.

● Physiologist Dr Uwe Proske comes face to face with a kangaroo in the Jock Marshall Reserve. Dr Proske says kangaroos use a remarkable property of muscle and tendon, called elastic recoil, to conserve energy when they hop at speed.

Monash: The Year in Review

The end of the search

Should an adopted person have the right to information about his natural parents and the right to seek them out?

Or should the circumstances of the adoption remain confidential to protect all parties from the possible damage to family life that might result from contact with the "lost" parent?

Research by Mr Cliff Picton, a senior lecturer in the Monash department of Social Work, and Mrs Mia Bieske, a research assistant, provides what Mr Picton believes to be a strong case for repeal of the present legislation, which prevents an adopted person from having access to information about his natural parents.

Their research stems from dissatisfaction with the findings of the Statute Law Revision Committee which discussed the question last year and came down strongly in favour of only qualified access — at the discretion of a Judge in Chambers.

The Committee rejected a submission that legislation be made retrospective, arguing that this would be a breach of faith.

Mr Picton says the findings of the Monash research, which will be presented



● Mr Cliff Picton and Mrs Mia Bieske.

to the Attorney-General and the Minister for Community Welfare Services, refute the arguments on which the Committee's findings were based.

"The burden of the Committee's report seems to be that if you allow people to know the identity of their natural parents you will have a group of disturbed, malad-

justed adoptees rampaging around the country, knocking on doors and possibly disrupting relationships that have been established for 20 or 30 years," he says.

"Our research suggests that this argument is false. Our research confirms the results of similar research in Scotland and the United States, which shows that where adults do obtain information about their origins, in the main they go about finding the parent in a very circumspect way.

"They show obvious concern about possible repercussions for both the natural and adoptive parents.

"Contact is usually made through an intermediary and in a very careful way so that neither party exposes himself or herself to too great a risk of being disappointed or upset by the initial encounter."

Repeal

The Monash research involves 70 members of Jig Saw, an association of adults adopted in childhood, adoptive parents and natural parents. Jig Saw was formed to lobby for the repeal of the present restrictive legislation.

Mr Picton and Mrs Bieske have so far interviewed about 30 Jig Saw members and have found between 15 and 20 who have already located one or both natural parents.

Although the research is still at an early stage, Mr Picton says, the trend is clear. Where contact has been made, in most cases it has been of benefit to all parties.

Dean takes a serve at lawyers

The Dean of Law at Monash, Professor Gerard Nash, has raised doubts about the intellectual capacity of many practising lawyers and law graduates.

Professor Nash told a student seminar on "The Future of the Legal Profession and the Role of Legal Education": "I believe that too many of today's practitioners, of those with whom I studied law, and too many of the graduates the law schools are producing today are not intellectually qualified to cope with today's world of law, still less with tomorrow's world."

Professor Nash made similar criticisms in an article in the *Law Institute Journal*.

He said that he expected many would contend that academic capacity was not really the test of a lawyer and that there was much legal aid and similar work which did not require specialist skills.

Competence

He said: "I would agree that academic capacity is not the sole test of the lawyer but minimal academic capacity is a prerequisite without which no one can be a good lawyer."

He continued: "Competence is not, of course, judged solely on academic merit. There is more to being a lawyer than absorbing technical information or manipulating that information.

"I believe that a graduate should have the academic capacity to diagnose problems which clients put before him. Across a large area of the law he should know and understand the basic principles applicable; and in other areas he should be able to discover the present state of the law, to find statutory material and case law in completely new fields, to interpret it and apply it."

The basic principles should be contained in the graduate's head and not in his notes.

"He should also know how to communicate with people, how to deal with facts, and how to apply the law to the problems of individuals as revealed by those facts," he said.

"I am not sure that our graduates, even the best of them, have all of those qualities at graduation."

Professor Nash repeated his support for what some others have described as "backward steps" in legal education, as a means of turning out more competent graduates.

Among these were closed book examinations in the basic subjects to ensure that the student had some knowledge of the law and not merely very well indexed photocopied materials; the reintroduction of university fees; provision of scholarships for, say, the top 20 per cent of students; abolition of TEAS and its replacement with a system of student loans; and a tightening of exclusion criteria in relation to Bachelor of Laws students.

Sowing the seeds of knowledge on ancient tribes

Appropriately, the material with which botanist Dr Beth Gott chiefly works is seeds.

For, from such small and seemingly insignificant beginnings, Dr Gott hopes to add to the growth of knowledge about the ancient inhabitants of Victoria — southern tribal Aborigines.

Her work is that of the archaeological detective. Many of her days are spent before the microscope in the laboratory painstakingly sorting through samples gathered by Victoria Archaeological Survey teams from old Aboriginal camp sites.

Her task is to separate and identify the plant material, the most useful form of which is seeds. By so doing Dr Gott says she is supplying building bricks which the archaeologist can use in constructing a picture of the way of life of the Aboriginal — including his use of plants for food, medicine, implements and other purposes.

Dr Gott is working in the Monash Botany department on a grant from the Australian Institute of Aboriginal Studies.

Much of the material she is currently examining comes from western Victoria. The Aborigines of this area shared common features in language and lifestyle. Because of climatic differences, it was a lifestyle different from that of the Aborigines of central and north Australia.



● Dr Beth Gott

Children interpret TV their way

The belief that children are merely "empty vessels" in front of a TV set has little validity, according to a senior lecturer in education at Monash, Dr Mary Nixon.

Dr Nixon says that children interact with TV and bring to it their own set of rules for interpreting what they see and hear.

Now a Monash study, being conducted by Dr Nixon, lecturer in education, Mr Alex MacKenzie, and Master students, Mrs Anne Knowles and Mr Peter Rendell, is exploring just what those rules are — how well children understand what they see on television and how well they remember it and in what form.

The research has been supported, financially and technically, by commercial stations HSV7 and ATV0.

Dr Nixon believes that it is important to

discover how children understand what they see and hear on TV to help in the formulation of appropriate, quality programs and in the effective transmission of information by the medium.

The Monash work is an area in which little research has been done previously.

Behaviour

Other researchers, motivated by the concern expressed widely about the amount and quality of TV that children watch, have concentrated on the effects of television on children's behaviour, exploring, for example, the possibility of a link between aggres-

sive or pro-social behaviour of screen models and similar behaviour in the child afterwards.

The Monash team is seeking to establish a body of data from which conclusions can be made on how children interpret what they view.

Highest ever enrolment

Monash this year had its highest ever student enrolment (in 'body count' terms): 13,910 persons, compared with 13,698 last year.

Expressed in EFTS (equivalent full time students) terms, however, the 1979 student population (on 'census day', April 30) officially was 12,863.

The apparent discrepancy in numbers is explained partly by an increase in the number of part-time students. These now account for 33.3% of the total enrolment, compared with 31.9% in 1978.

Be energy wise . . . like Sid

The self-satisfied little man you see here is Sainly Sid, the Energy Saver.

He first appeared a week or two ago on those "Switch Off and Save" stickers next to light and power switches around the University. And he'll be back next year to lead the fight against energy waste.

Sid is the creation of the University's Energy Conservation Committee which has embarked on a campaign aimed at cutting the University's mounting energy bill, currently running at about \$800,000 a year.

A number of measures introduced, or planned, by the Committee were reported in SOUND 32-79.

And one initiative begun earlier in the year has already brought results.

At the beginning of the winter, the temperature of the University's heating system was reduced one degree Celsius and, while the mildness of the season may have been a contributing factor, there has been a significant reduction in gas consumption.

Consumption at the end of September, 1979, stood at 97,037,784 Mj compared with 100,616,065 Mj at the same time in 1978. (Unfortunately, this admirable result was not reflected in the gas bill: an increase in the tariff



meant that we paid \$98,874 for that period, compared with \$94,112 in 1978).

Still, there's scope for further economies in both gas and electricity consumption.

Take heating: This is provided by ducted, gas-heated air and is designed to operate without supplementation from electric radiators. The temperature of a given area of, say, 40 offices is controlled by sensors located in representative rooms within the area.

Troubles can arise when somebody

inadvertently 'tampers' with the system.

Associate Professor Bill Bonwick, a member of the Energy Conservation Committee, explains it this way:

"Imagine the problem if the occupant of a room with a sensor turns on a radiator beneath the sensor — or, conversely, if he or she opens a window during a cold snap.

"In the first instance, the sensor will command the heating system to reduce the temperature, the other 39 occupants will freeze, more radiators will be brought in from home and turned on.

"Conversely, with the window open in the room containing the sensor, the heating system will be forced to work at the maximum level in an effort to heat the outside air. All the other offices will then overheat, and 39 other windows will be opened as well."

Savings

It's not a fanciful scenario. Assoc. Prof. Bonwick says such examples do occur.

"We can make considerable energy savings by letting the system operate as it's designed to do," he said. "To this end, the University Engineer, Mr Kevin Grace, is anxious to learn of any heating complaints so that the system can be checked and, if necessary, adjusted."

As to electricity consumption, the Committee has come to the conclusion

that, while appeals to the consciences of Monash's 17,000 inhabitants will no doubt help a lot, more might be achieved by an appeal to the hip-pocket nerve.

Assoc. Prof. Bonwick again: "Until this year, the electricity account at Monash was paid centrally by General University Services.

"Any individual effort to save electricity was anonymous and went unrewarded; less careful colleagues were not correspondingly penalised.

Stimulus to save

"So in March, the Conservation Committee decided to supply the stimulus to save by introducing a budget entitlement for electricity used in 17 charge areas within the University, including the seven faculties. The 1980 entitlement for each area is set at the electricity actually used in 1978.

"The incentive to save should be obvious to all those responsible for paying the bills in their own charge areas . . ."

As for other incentives, it could be pointed out that a 10 per cent saving on the electricity account (usually accepted as an easy target, simply by eliminating gross waste) is equivalent to:

- Three or four academic salaries
- Many more travel grants, or . . .
- A sizeable quantity of new equipment for several faculties.

So Sainly Sid's message might well be: "Switch Off and Save . . . an academic's job."

LETTER

Sir: I read in *Monash Reporter*, October 3, 1979, and in issue 30-79 of *Sound*, that the AVCC has offered to engage in direct negotiations with FAUSA about guidelines for some employment conditions.

We have responded positively to the chairman of the AVCC. In fact, FAUSA has been suggesting "summit" conferences for six months, and the AVCC, at first reluctant, agreed to a meeting in August last. The idea of "national guidelines" arose therefrom.

A FAUSA commentary on the AVCC Statement on Academic Staff Relations will be sent in the near future to all members of the academic staff, both members and non-members of SAMU. The present AVCC statement is less objectionable than earlier versions. On some issues FAUSA is in broad agreement with the AVCC. Consultation has widened the area of consensus. What follows is an outline of the major existing differences.

1. The "deep concern" of the AVCC at recent moves to invoke state arbitration jurisdictions and to move to register a federal union of academics.

FAUSA is determined that the jurisdiction which fixes academic salaries and conditions should be accessible, flexible and authoritative. The Academic Salaries Tribunal is none of these. It cannot be activated by FAUSA. It cannot at present hear matters except as part of a general review. Its recommendations are not binding on State universities, and it cannot protect conditions of employment. In the last year it has met on only four occasions, and progress was successfully frustrated by the Federal Government and other parties arguing legal points. There are certain staff groups who

FAUSA replies to AVCC statement

quite clearly should receive salary increases (e.g. tutors and some part-time staff) and we cannot allow our members' conditions to be eroded. For these and other reasons we must explore our options with other jurisdictions.

Federal registration might allow determinations of wages and conditions in the Conciliation and Arbitration Commission, and FAUSA feels that these determinations would be more secure than those of a cumbersome and ineffectual tribunal. Even if unsuccessful, the application for registration protects our membership from other unions.

Funding dangers

State jurisdictions are our last preference, but given the low probability of success in the two options above, we cannot ignore them. More importantly, it is the States who have the constitutional powers over education, and there are disturbing signs that the new State tertiary education commissions (e.g. VPSEC in Victoria) wish to reassert this authority. We are quite conscious of the funding dangers involved, and have been very active in battling political moves for a return to shared funding.

2. The AVCC expresses a preference for informal AST proceedings, and observes that there is a need for the Tribunal to assess submissions in a rigorous equitable manner.

FAUSA believes that informality and accountability are contradictory principles here.

We believe that, if anything, the public is more likely to be convinced, and the government more likely to be bound, by formal Conciliation and Arbitration Commission decisions than by those of a small specialist tribunal; the Arbitration Commission is after all the "senior tribunal" and the AST relies on many of its decisions and principles (e.g. wage indexation). There is more likely to be a vigorous defence against attacks on the C & A Commission than on the AST. Indeed, there is recent evidence of this.

Arbitration costs

3. The AVCC is concerned at the increased financial costs which would arise if external arbitration systems were involved.

FAUSA uses its own office resources in proceedings of the AST and in State industrial tribunals. QCs have already appeared on behalf of the AVCC before these courts. A comparison of present and anticipated costs would need to be offered for this argument to be convincing.

4. The AVCC is concerned at the danger to the unusually wide consultative procedures used in universities.

In some universities, and in some matters, the consultation is not wide, let alone unusually wide. A change in the formal method of determining salaries and conditions should not be used as an excuse to reduce the level of internal consultation. The modern industrial trend is to employee participation or "industrial democracy". We assume that the concern here is not a veiled threat.

P. LeP. Darvall
President SAMU/FAUSA

Appeal for refugee children

As the International Year of the Child comes to a close, Monash's Refugee Children's Sponsorship Club, itself being wound up, is calling for one last act of generosity from staff and students.

The club is seeking donations for the sponsorship of 13 children from India, Indonesia, Korea, the Philippines, Bangladesh, Kenya, Thailand, Chile and Haiti.

A special account for donations has been opened at the Monash branch of the CBA — account no. 67 — 00 — 243. Cash should not be sent to the club box.

The Refugee Children's Sponsorship Club, formed in 1971, is being disbanded at the end of the year due to lack of interest. It is hoped that individual members of the University will take over sponsorship of the children so that it does not end.

Money raised by the club is channelled through World Vision, a Christian humanitarian organisation founded in Korea 30 years ago. Child sponsorship is only one aspect of its activities which include aid programs in times of war and natural disaster. World Vision is among the agencies which have assisted recently in Kampuchea.

A similar appeal last year for contributions for refugee sponsorship was supported by many staff members and some student bodies such as the Evangelical Union, and the Navigators and the Italian clubs.

For further information about sponsorship contact Marie Blew on 24 3432 (home) or 598 7788 (business).

ARGC GRANTS, 1980

HUMANITIES AND SOCIAL SCIENCES

New Projects		
Prof. R. Baxt	Reforming the law relating to unincorporated associations	14,106
Mr M. Burns	The distributional effects of Australia's recent inflationary experience 1966-1978	10,313
Assoc. Prof. M. Clyne	Australia's language resources and needs.	5,384
Prof. J. D. Legge	Western-educated intellectuals in Indonesia in the later stages of Dutch rule, during the occupation and revolution and in the early years of independence.	5,040
Dr H. Love	Melbourne public theatrical performances 1845-1895	6,000
Dr C. Maher	Alteration of inner city environments	4,500
Dr B. McMullin	Australia and New Zealand early imprints project (Victoria): A project to record in machine-readable form a union catalogue of pre-1801 letterpress materials held in institutional and private collections in Victoria.	13,606
Prof M. Porter	A study of the overall impact on Australia of increasing international economic interdependence.	12,273
Dr N. Smith	Attitudes of newly trained social workers in Australia towards their working role.	6,657
Assoc. Prof. W. Steele	Bibliographical and textual studies in the works of D. H. Lawrence	2,300

Continuing projects

Prof. A. L. A. Boura	Learning retardation produced by the action of antibiotics and amino acid neurotransmitters on the developing brain	18,602
Dr J. Bradshaw and Mr N. Nettleton	Human cerebral asymmetry: investigations with a display controlled by eye movements	17,008
Dr L. J. Bryson and Dr A. R. Hiller	An examination of the services provided by the Victorian social welfare department	11,017
Dr C. Chen	Sensitivity to noise: analysis of factors associated with mechanisms underlying sensitivity in mice	11,147
Prof R. Day	The components of geometrical visual illusions.	10,913
Prof. R. H. Day and Dr B. E. McKenzie	The development of perceptual constancies	11,855
Dr K. Forster	Visual processing of sentences	12,819
Dr B. A. Goss and Prof D. E. A. Giles	Price determination in international commodity markets with forward trading	11,097
Dr M. J. Kartomi	The traditional music of Sumatra	10,821
Dr E. Keller	The literary criticism of the young George Lukacs (1902-1915)	500
Dr I. W. Mabbett	Comparative history of Buddhism: pilot study	440
Dr C. Maher and Dr K. O'Connor	Spatial organization within Australian metropolitan areas	7,009
Assoc. Prof. J. Platt	The use of English in Singapore and Malaysia	5,611
Assoc. Prof. E. D. Potts	Australian-American contacts during World War Two	1,070
Dr J. Powell	Conservation and environmental management in Australia 1914-1945	650
Dr A. Serle	Biography of General Sir John Monash	5,468
Ms H. L. Topliss	Catalogue raisonne of Tom Roberts	2,808
Assoc. Prof. J. S. Whitelaw and Mr J. McKay	Internal migration in Australia, 1971-1976	8,577

PHYSICAL SCIENCES

New Projects		
Dr J. Bennett and Dr P. Dyson	Development of new ray tracing techniques and their application to Spacelab and ground-based radio experiments	4,000
Continuing projects		
Dr J. Cashion and Dr P. Clark	Studies of solids of low temperatures and high magnetic fields	7,760
Dr J. Cashion and Dr P. Clark	Mossbauer scattering from solids	3,000
Dr T. Finlayson and Dr T. Smith	The study of superconducting transition metal alloys and compounds	9,405
Dr R. Fleming	Charge transport mechanisms and distributions of localized states (traps) in some simple organic polymers	7,100
Dr T. Hicks	Polarization analysis of diffuse neutron scattering	17,923
Dr J. Monaghan	A numerical technique for fluid systems in astrophysics and meteorology	11,000
Dr J. Pilbrow	Electron spin resonance in crystals and complexes	11,000
Prof. T. Smith	Measurements of the thermal properties associated with solid state transitions	14,000
Assoc. Prof. J. H. Smith	The relationship between atomic and magnetic short range order in mictomagnetic and superparamagnetic alloys	3,784
Mr R. C. Tobin	Metal vapour lasers	762
Prof. R. Van der Borgh	Computational methods in optimum systems control	13,606

CHEMICAL SCIENCES

New projects		
Dr D. Black and Dr G. Deacon	New organothallium chelate systems	3,000

Dr R. Brown and Dr F. Eastwood	High temperature pyrolysis of organic compounds: generation of cumulenones	14,206
Dr D. Collins	Studies of solanum alkaloids in relation to biogenesis and taxonomy	7,000
Dr F. Eastwood and Prof. J. Swan	Lanthanoid and actinoid organometallics	12,200
Dr G. Deacon	Organometallic intermediates in the transition metal assisted reactions of substituted alkynes	1,250
Assoc. Prof. R. Dickson	The activation of metal carbonyl and related complexes	12,567
Prof. W. Jackson	Transition metal complexes with chiral ligands as catalysts for asymmetric synthesis	8,300
Prof. W. Jackson	Applications of 2H N.M.R. to a study of the reaction of hydrogen with organic compounds	nil
Dr J. Kent and Dr M. O'Dwyer	Energy transfer mechanisms in small polyatomic molecules	12,915
Dr F. Larkins	Photoelectron studies of adsorbates on catalyst surfaces	14,400
Dr I. Rae	A rational search for nuclear overhauser effects on the hydrogens of methyl groups	4,500

Continuing Projects

Dr D. S. Black	Methods of synthesis based on nitrene cycloaddition reactions	6,600
Prof R. D. Brown and Dr P. D. Godfrey	Rotational spectra of ions	23,806
Prof R. D. Brown and Dr P. D. Godfrey	Molecules in space — phase 2	34,670
Dr F. Burden	Simulation studies of atmospheric reactions	1,000
Dr D. Collins	The fate of solasodine in ripening fruit of solanum laciniatum	700
Dr F. Eastwood and Dr T. O'Brien	Elimination reactions in organometallic synthesis	1,000
Dr G. B. Deacon	Crystal chemistry of the solid state	17,647
Dr B. Gatehouse	Auger electron spectra of atoms and molecules	15,790
Dr F. P. Larkins	Chemistry of the lower stratosphere	1,100
Dr I. McKinnon and Dr I. Wilson	Biological iron compounds	1,000
Dr K. Murray	Single crystal magnetic studies of inorganic and bioinorganic compounds	3,200
Dr K. S. Murray	Inert gas matrix isolation studies	900
Dr A. Pullin	Physico-chemical studies on cobalt(II) substituted heme proteins	500
Dr T. D. Smith	Alkyl group exchange between transition metal compounds	14,014

BIOLOGICAL SCIENCES (Plant and Animal Biology)

New Projects

Dr R. Bywater and Dr G. Taylor	"Rebound" excitation of gastrointestinal smooth muscle	1,500
Dr J. Chapman	Physiological consequences of electrogenic active transport in cardiac muscle: computer simulation	400
Dr E. McLachlan	Synaptic mechanisms at peripheral synapses	11,200
Dr T. O'Brien	Plant-insect interactions in the arid zone with emphasis on eucalypts, ants and leaf grazers	900
Dr G. Ettershank and Prof. M. Canny	The stiffness of mammalian slow and fast muscle	1,000

Continuing Projects

Dr L. Aitkin	Connections of the auditory midbrain	1,150
Dr L. Aitkin and Dr W. Webster	Organization of the central auditory pathway	6,000
Dr B. M. Allender	The effects of tannins and turbidity upon the growth of estuarine algae	1,360
Dr M. Clayton	Studies on the reproductive biology and genetics of some brown algae, together with related taxonomic investigations	6,600
Dr S. Crossley	Behaviour genetic studies of naturally occurring populations of Drosophila melanogaster	4,100
Dr D. F. Gaff	Desiccation tolerant plants, particularly grasses	6,000
Dr N. D. Hallam	The fine structure of plants adapted to desiccation	10,500
Dr G. D. S. Hirst	Quantitative aspects of neuromuscular transmission in arterioles	11,950
Prof. M. Holman	Innervation of smooth muscle	27,000
Dr A. Lawrie	Nitrogen fixation in native Australian legumes	6,200
Assoc. Prof. A. K. Lee and Dr I. R. McDonald	Role of endocrine factors in mammalian life histories	800
Dr A. R. Luff	Neural control of the dynamic properties of mammalian skeletal muscle	1,200
Dr I. McDonald	Adrenal function in the Australian monotremes and marsupials	7,375
Dr T. O'Brien	Plant armour plate. Polysaccharide-phenol complexes and the resistance of cell walls to fungal attack	6,000
Dr S. Redman	The application of electrical circuit models of neurones to the analysis of synaptic potentials	20,706
Dr B. Roberts	Genetical studies on the fleshfly sarcophaga	1,500
Dr G. A. M. Scott	A survey and taxonomic revision of the liverworts of Victoria	2,200
Dr R. Westerman	Mammalian nerve-muscle interactions	12,700

BIOLOGICAL SCIENCES (Molecular Biology and Cell Metabolism)

New Projects

Dr G. Cross	Characterisation of the biophysical and biochemical properties of boleara virus	1,200
Prof. D. Lowther and Dr C. Handley	Regulation of matrix formation as an expression of the differentiated state of chondrocytes cultured in vitro	11,000



GRADUATES PRIDE OF A RETIRING PROFESSOR

"One of our real purposes is to produce the type of graduate who will carry the engineering profession forward," says Professor Karol Morsztyn speaking of Monash's Electrical Engineering department from which he retires at the end of the year.

Professor Morsztyn has been with the department since it first began teaching — 17 years ago. His area is electrical power studies. Before coming to Australia in 1958 he was a professor at Warsaw Technical University.

The shelves of Professor Morsztyn's bookcase are lined with the theses of his Ph.D. and Master students and it is the work they have achieved and he has supervised that has afforded him his proudest moments at the university, he says.

He lists his best Ph.D. students: "Ian Wright, 1970, now in a senior position with the SEC and a member of our faculty board; James Brown, 1971, in private industry; Tharam Dillon, 1974, senior lecturer in the department; Anthony Marxsen, 1976, with the SEC; Norman Pidgeon, 1977, with the SEC; Ross Gawler, 1978, was a tutor in the department, now with the SEC; Ken Lawler, 1979, with the SEC . . . these people have all contributed to the electrical power industry and will continue to do so in the future."

Professor Morsztyn says that it was Monash in its early days which put "proper Ph.Ds in electrical engineering on the map in Australia."

"From the beginning we attracted some very good students who went into industry and proved themselves."

Professor Morsztyn says Monash also played a significant role in establishing a proper place for power studies in a university engineering course. There was a time, he says, when power studies were considered "practical" while electronics was more "theoretical" and suited to a university.

"The truth is that power studies can be as theoretical as practical," he says.

He believes that one of the strengths of the Monash electrical engineering undergraduate course has been that it has covered both electronics and power studies with no specialisation at such an early stage, producing graduates with flexible skills.

It has been possible to teach both aspects in depth, he says, because of the excellent laboratories developed at Monash.

He says: "Instead of spending a great deal of time in lectures talking about power systems the students go into the laboratory and learn on the spot."

The development of the laboratories owes much to the remarkable cooperation built up between the department and in-

dustry.

For the first five years of the department's existence the SECV donated 5000 pounds a year to it enabling the purchase of most of the equipment for its power laboratories.

(Professor Morsztyn points out that a professor's salary at that time was about 4100 pounds).

In the mid-60s the SECV made a further donation of a Westinghouse Network Analyser worth about 50,000 pounds at the time. Monash is believed to be the only university with such an analyser.

Private industry too, he says, played a generous role in aiding the department. Companies such as Wilson Transformers supplied transformers and a high voltage impulse generator to equip what Professor Morsztyn terms a "proper" high voltage laboratory.

He says: "Monash research activities have also been supported consistently for many years by substantial grants from the Electrical Research Board. Even more important than the financial support was the support given by the SECV and also the SEC of NSW in sending to Monash several postgraduate students to study for Ph.Ds and Master degrees on full engineering salaries."

In establishing the department's reputation for research, Professor Morsztyn looks back to the exciting days of 1965 when building started on a completely new type of Transient Network Analyser (TNA) — an electronic model of power system suitable for investigation of electromagnetic transients on high voltage transmission lines and in high voltage cables.

The TNA has since been used extensively by power authorities in Victoria, NSW, Queensland and Tasmania in many important technical studies, he says.

The TNA represented a completely new design and aroused interest overseas which led to an invitation for Professor Morsztyn to join working groups of CIGRE (Inter-

national Conference on Large High Voltage Electrical Systems).

Professor Morsztyn says that in recent years the department's research interests have been extended from the study of switching surges to the study of problems of on-line control and optimisation of power systems.

"In order to study these phenomena in depth it was necessary to build a very sophisticated power system simulator which includes a new type of fully electronic turbo-generator for which I think we may claim world priority," he says.

Professor Morsztyn pays tribute to other members of the department with whom he has worked closely in power studies: academics, Associate Professor Bill Bonwick, Dr Dave Wilcox, Dr David Giesne and Dr Tharam Dillon, professional officer, Mr J. Cappadona, and technical staff.

Monash Lions?

The Lions Club of Waverley is exploring the possibility of forming a Lions Club at Monash.

Laboratory manager in the Physics department, Mr A. J. O'Brien, says that Lions International is the largest community service club in the world. Australia is strongly represented with more than 1200 clubs.

People interested in the proposed club should contact the extension chairman of the Waverley Lions Club, Mr J. Devlin on 288 1098, or Mr D. Hume on 232 3253 or 62 5476 (BH).

● Lions Christmas Cakes, 1.5 kg. in size, are now available from the Physics department store (extension 3665), or the Monash Branch of the CBA. The cakes cost \$3.50 each.

Prof. D. Lowther	The secretion and activation of chondrocyte and polymorph neutral proteinases and the effect of anti-inflammatory drugs on these processes	10,050	Continuing Projects	Dr L. A. Frakes	Sedimentation in Corner Inlet, Victoria	700
Dr M. Britz				Prof. B. Hobbs and	An experimental investigation of the influence of phase transformations on the mechanical properties of rocks	28,090
Dr E. Cartwright and Dr J. Sandy	Macromolecular diffusion through porous membranes	25,202		Dr M. Etheridge	Direct observation and identification of crystal defects and their role in the mechanisms of crystallization and deformation of minerals and rocks	3,000
Assoc. Prof. B. Preston and Dr W. Murphy	Electron transfer in heme and copper proteins	1,600		Dr A. C. McLaren	Crystallisation and origin of the aluminous granitic magmas	2,000
Dr J. Yandell				Dr I. Nicholls and Mr V. Wall	Geochemistry and petrology of Silurian-Devonian volcanic rocks in the South-eastern Lachlan mobile belt	10,930
Continuing Projects				Dr P. Rich	Search for Australian cretaceous tetrapods	3,500
Dr J. M. Armstrong and Dr G. Y. Ma	Regulation of phosphoprotein phosphatases in mammalian tissue	2,200		Dr M. Archer and Dr T. Rich	Experimental and thermodynamic studies of subsolidus relations in the system of Ca-Mg-Fe-Si-C-O-H	8,710
Dr L. Austin and Dr C. J. Langford	The role of the cell body in the renewal of axonal and synaptic components	8,750		Mr V. Wall	Experimental investigations on the hydrothermal mobilisation, transport and deposition of tin	15,970
Dr J. Baldwin	Role of octopine dehydrogenase in energy metabolism of molluscs	1,950		ENGINEERING AND APPLIED SCIENCES		
Dr R. Bayly	Evolutionary relatedness of enzymes of meta fission degradative pathways	11,268		Dr G. Dixon and Dr K. Forward	The application of digital data logging techniques to the study of ship performance	4,000
Prof. B. Holloway	Genetic organisation of Pseudomonas aeruginosa R plasmids	31,232		Dr C. Fryer	Uptake of heavy metals by microorganisms	19,403
Dr A. F. Morgan and Dr V. Krishnapillai	The supply, turnover and role of synaptic components	9,100		Dr L. Koss	The measurement of sound energy radiated by transient noise sources using radiation ratio concepts	3,000
Dr P. Jeffrey and Dr L. Austin	Genetics of transfer of Pseudomonas aeruginosa R plasmids	7,500		Assoc. Prof. F. Lawson	Removal of trace amounts of copper from liquid metals using elemental sulphur	2,208
Dr V. Krishnapillai	Biogenesis of mitochondria	29,591		Prof. W. Melbourne	Aerodynamic instabilities, loading and response of bluff bodies in a turbulent flow	17,753
Prof. A. Linnane and Assoc. Prof. H. Lukins	Structural studies of connective tissues including factors involved in the maintenance of cartilage	11,500		Dr B. Parker	The effect of microstructure on the strain rate sensitivity of alloys	9,000
Prof. D. Lowther	The effects of altered biochemical function on the structure and functions of mitochondrial membranes	29,303		Prof. O. Potter	Fluidization for reaction and other applications	26,000
Dr H. Robinson and Dr J. Sandy	An elucidation of biochemical and genetic factors which maintain enzyme polymorphisms in Drosophila melanogaster	9,700		Prof. O. Potter	Liquid-phase organic oxidations — chemical engineering aspects	12,100
Dr S. W. McKechnie and Dr L. H. Schmitt	Informational macromolecules in nucleocytoplasmic interactions	21,568		Continuing Projects		
Dr P. Nagley and Prof. A. W. Linnane	Molecular and genetic analysis of the conjugative plasmid F	9,900		Dr J. Hinwood	Cellular structure in a turbulent shear flow	3,900
Dr R. A. Skurray	Patterns of DNA organization in mitotic and meiotic chromosomes of Lillium	1,500		Assoc. Prof. J. Agnew	Dynamic studies of heterogeneous reaction systems	10,147
Dr D. R. Smyth	Mechanisms of development and differentiation of B. lymphocytes	5,300		Dr D. Boger	Accelerating and decelerating flows of viscoelastic fluids	15,423
Dr H. A. Ward	Biogenesis of steroids by the adrenal and gonadal tissue of the Australian monotremes and marsupials	9,150		Prof. J. Crossley	Recursive content of algebra and analysis	2,000
Dr M. Weiss	Ultrastructure and chemical changes in the developing sporangia of Allomyces	7,400		Dr J. Keedy	Monads: Software methods for complex systems	17,640
Dr J. Youatt				Assoc. Prof. F. Lawson and Dr K. N. Han	Leaching mechanism of metal oxides	6,650
EARTH SCIENCES				Assoc. Prof. A. Montgomery	File storage system design and evaluation	14,140
New Projects				Dr G. Rozvany	Optimization of structural layouts by analytical methods	12,814
Dr R. Cas	The stratigraphy, sedimentology, palaeogeography and tectonic significance of the ordovician rock sequence in the Victorian segment of the Lachlan fold belt	1,550				
Dr D. Dunkerley	Effects of forest strip-thinning on chemical denudation Crotty Creek catchment, Narbethong, Vict.	900				
Dr A. Kershaw	The vegetation history of north-east Queensland	13,590				
Dr J. Peterson	Quaternary environmental changes, Macquarie Island	3,180				

The 1982-84 triennium

Monash Council this week approved the University's submission to the Universities Council for the 1982-84 triennium.

The document is the outcome of many months' work by the Professorial Board's Development Committee, chaired by the Vice-Chancellor, Professor Ray Martin, in consultation with the Planning Committee of Council.

It aims to define the directions Monash expects to take as it moves into the 1980s — and, incidentally, its third decade of teaching.

Professor Martin says the submission places heavy emphasis on the importance of research and research training.

"Already Monash has established a remarkable reputation — especially overseas — for its research and scholarship," he said. "We now want to enlarge our research activities and to promote increased growth in our graduate training programs.

"As the submission points out, vigorous research activity is first and

foremost a product of creative intellectual capacity, and Monash is fortunate to have a relatively young but 'research-seasoned' staff whose scholarly contributions have created an international reputation in many fields.

"However, imaginative research ideas must be supported by a solid infrastructure of funds for libraries, equipment, general maintenance and even building repairs and alterations.

"The increasing compression of the overall University budget in recent years has caused considerable difficulties in many areas.

"We hope that our proposals, if accepted, will help to arrest — and reverse — the serious slide that has been developing over recent years of inadequate funding," Professor Martin said.

Here, "Monash Reporter" summarises some of the major points in the submission . . .

Monash will seek substantial increases in funds for buildings and equipment in the 1982-84 triennium in a bid to arrest what it sees as a serious decline in these areas arising out of the continuing financial squeeze.

The University's submission to the Universities Council asks for buildings allocations totalling \$5,710,000 over the three-year period.

It also seeks an equipment grant of \$5,195,000 in 1981, plus further substantial grants in the years 1982-84 to overcome the effects of obsolescence.

The submission also asks for progressive increases in the level of recurrent funds grants from \$54,000,000 in 1980 to \$58,942,000 in 1984, pointing out that 1980 will be the fifth consecutive year in which the University has had to absorb the "accumulating effects of incremental creep and other unavoidable expenditure not compensated for under cost-supplementation arrangements".

The University says that the increases sought in recurrent funds would, in normal circumstances, only just be sufficient to return to the 1975 level of funding that the Tertiary Education Commission believed appropriate. However, much of the increase would be required to reduce shortcomings in present superannuation schemes and full restoration to 1975 levels would have to be further postponed.

"By that time," the submission says, "unless an economic improvement permits an earlier restoration, the period of inadequate resources will have been extended to over ten years."

The submission expresses dismay at the inadequacy of equipment funds allocated to Monash for the remainder of the 1979-81 triennium.

It says: "We appreciate that our grant for 1980 is some 2.8% higher than that for 1979, but since we are in need of much larger sums, we can only hope that for us the slight increase represents the beginning of an exponential curve which will steepen rapidly in the years immediately following.

"Ever since equipment grants were introduced in 1973 the allocations to Monash have been substantially less than those to the other large universities and noticeably less than those to some of even the small universities.

"In order to reduce the effect this has had on our teaching and research we have been obliged to use recurrent funds for equipment purchases, this at a time when we would have hoped to conserve them in order to retain some opportunity for academic changes despite cut-backs in recurrent funding."

Building projects for which funds are sought in 1982-84 are: hydraulics laboratory in the faculty of Engineering (\$600,000); extension of facilities at Prince Henry's (\$1.3m), Alfred (\$3.2m) and Geelong (\$0.35m) hospitals; and extension of Engineering Building 6 (\$260,000).

A further \$1.5m is sought for minor projects and site works.

At this stage, the University is not seeking funds for the proposed re-siting of the Queen Victoria Medical Centre to the Clayton site.

The submission says: "Our estimate of the cost of the University's part of the new complex is \$5.5m, but while it is reported that construction is to start no earlier than 1983, this date appears far from certain."

The submission says that, of the five nominated building projects, "three reflect

the long-standing inadequacy of the facilities available to our Medical School for proper clinical training; one reflects the subsequent cancellation of a building approved in the Universities' Commission's Fifth Report in 1972, when a sum of \$1,530,000 was granted for it; the fifth, which we rank first in order of priority, reflects our assessment of a national need".

The 'top-priority' project — Engineering's hydraulics laboratory — incorporates a wind/wave basin, an extension to the ex-

isting wave flume, and an outdoor facility for river and estuarine models.

Its construction would enable the faculty to develop its teaching and research in coastal, estuarine and river engineering and to meet a pressing and growing need for engineers and researchers trained in these areas.

The wind/wave basin would provide a capability unique in the world, the submission says.

The funds sought for the hospitals would

Next year's funds

Monash Council at its October meeting approved a Recurrent Funds Budget for 1980 of \$53,977,000 (after supplementation for increases in staffing costs). This compares with a comparable grant in 1979 of \$54,164,000. (Figures are at December quarter 1978 cost levels.)

Below is a breakdown of the 1980 Budget:

1980 RECURRENT FUNDS BUDGET SUMMARY STATEMENT
(Cost levels 1/1/79)

BUDGETARY AREA/UNIT	1980 (\$000)	1979 (\$000)
1. Academic Activities		
1.1 Teaching and Research		
1.1.1 Faculties' Staffing and Maintenance	36,651.4	36,812.1
1.1.2 Aboriginal Research Centre	40.6	39.0
1.1.3 Trainee Teacher Supervision	177.0	177.0
1.1.4 P. G. Research Awards — G.I.A.	—	75.4
1.1.5 Outside Studies Programme, Appointment Costs, Repatriation, Distinguished Visitors and Professorial Loadings.	389.5	453.7
1.1.6 Supplementary Pensions	83.9	71.4
Total 1.1 Teaching and Research	37,342.4	37,628.6
1.2 Research Only — Publications Subsidy	10.0	10.0
TOTAL 1.0 ACADEMIC ACTIVITIES	37,352.4	37,638.6
2. Academic Services		
2.1 Library	3,900.8	3,791.5
2.2 Computer Centre	844.5	885.2
2.3 Higher Education Advisory & Research Unit	463.5	468.7
2.4 Animal Services	256.1	239.6
2.5 Safety	56.8	56.2
2.6 Art Collection	10.4	10.4
2.7 Alexander Theatre	68.0	69.3
2.8 Robert Blackwood Hall	64.8	65.6
2.9 Sub-total	5,664.9	5,586.5
2.10 Supplementary Pensions	6.6	4.6
TOTAL 2.0 ACADEMIC SERVICES	5,671.5	5,591.1
3. Student Services		
3.1 Careers	134.7	138.6
3.2 Counselling	124.4	123.7
3.3 Health	177.5	181.1
3.4 Housing	40.2	40.2
3.5 Religious Centre	12.9	12.6
3.6 Warden of Union	60.0	60.0
3.7 Sub-total	549.7	556.2
3.8 Supplementary Pensions	12.8	7.3
3.9 M.G.S. Stipends and Allowances	754.0	754.0
TOTAL 3.0 STUDENT SERVICES	1,316.5	1,317.5
4. General University Services		
4.1 General	8,963.3	9,212.1
4.2 Major Building Renovations	100.0	250.0
4.3 Supplementary Pensions	53.6	35.2
TOTAL 4.0 GENERAL UNIVERSITY SERVICES	9,117.1	9,497.3
5. Public Services — Continuing Education	69.5	69.5
6. General Reserve	450.0	50.0
7. BUDGET TOTAL	53,977.0(2)	54,164.0(1)

NOTES: (1) Actual grant was \$54,265,000 excluding \$8,000 for Evaluative Studies and \$216,000 for Legal Workshop Course (Leo Cussen Institute).
(2) T.E.C. has advised the grant at December quarter 1977 cost levels and index movements for 1978. \$53,977,000 is the University's calculation from such advice excluding \$216,000 for the Legal Workshop Course.

The Tertiary Education Commission in Volume 3 of its Report for the 1979-81 Triennium, tabled in Federal Parliament late in August, recommended the following capital grants for Monash in 1980: **Equipment grants \$1,615,000; Major Works (microbiology building) \$1,050,000; Minor Works, site services \$232,000.**

(Equipment grants are calculated at estimated December quarter 1978 cost levels; major and minor works at December 1978 levels.)

be used to construct badly-needed offices, laboratories, library extensions, clinical areas and additional student accommodation and union facilities.

The proposal relating to Engineering building 6 envisages a full-height extension at the east end to meet the essential needs of the departments of materials engineering and chemical engineering.

Monash has also put forward the general proposition that the Universities Council should consider providing funds for the construction of space for contract research.

The submission says: "Universities are constantly exhorted to undertake research, and this is especially true in science and technology, where universities are asked by both government and industry to make their expertise and facilities available to assist in development.

"This often necessitates additional staff and facilities, but the space parameters used in the allocation of capital grants to universities make no provision for them."

The submission suggests that the Council should advance half the cost of additional space. The universities would then raise loans for the balance, repaying them out of overheads charged on the research undertaken for outside bodies.

In the section devoted to Recurrent Fund proposals, the submission draws attention to the exceptional price rises for books and journals, currently running at more than 20 per cent a year.

It says: "We believe that we shall need an increase of about 0.5% in our recurrent grant if we are to maintain even our reduced level of acquisitions."

The submission notes that its proposals would increase the University's recurrent grant by about 7%, which is the minimum increase judged necessary by the Williams Report for a satisfactory quality and quantity of teaching and research.

Other points emerging from the submission include:

● With the university-age population likely to remain static at least until 1987, Monash foresees little change in enrolments. It anticipates small progressive increases in total enrolments from 13,190 (including 2224 higher degree) in 1979 to 14,119 (2274 HD) in 1984.

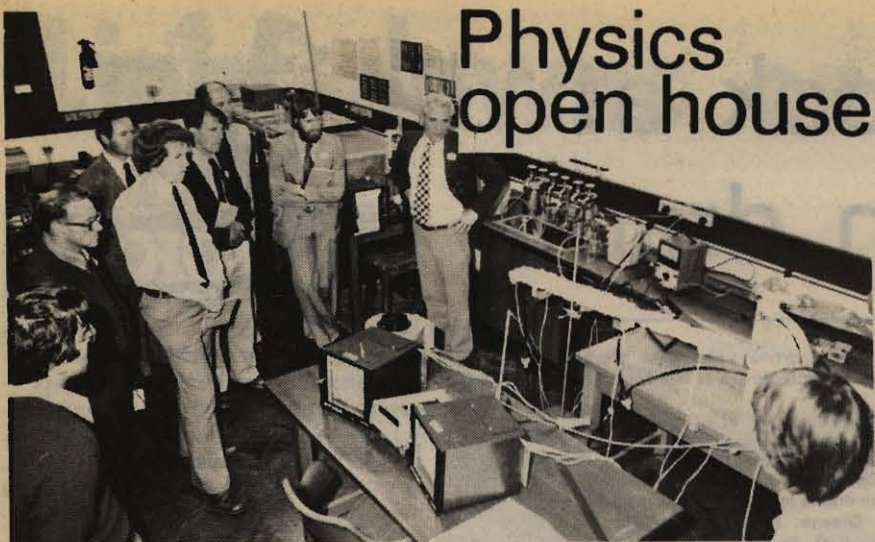
● Forthcoming changes in the HSC examination under VISE would compel some adjustment in the process of selection and admission, but it is not intended that any significant changes in admission policy should take place.

● The submission was formulated in the light of the Williams Committee comment that "The most distinctive features of the universities are research and training in research". It points out that Monash, since it was opened in 1961, had won a worldwide reputation for its research and currently 26 members of its teaching staff were Fellows of the various learned Academies.

● Apart from an expected growth in the graduate school, the University had reached its planned size and there were no plans for the establishment of new faculties or for the introduction of major new academic initiatives. The main problem was that of maintaining flexibility and enabling some degree of innovation in a steady-state situation. However, it adds, "... it now wishes to enlarge its research activities and to promote increased growth in its graduate training programs, in both research and advanced study, as a major activity for the next triennium."

● The reduction in the level of funding over recent years had inevitably meant some reduction in staff numbers, both academic and general — but this had been managed through the process of natural attrition and non-replacement of some staff.

● Halls of residence face a number of problems which could affect their financial viability; these include: (a) the increasingly difficult task facing students of finding vacation employment and the increased strain this places on their personal finances; and (b) the total financial support available to students which, in real terms, has fallen.



Physics open house

The Physics department held an Open House on the afternoon of October 24 with the aim of showing some of its work, techniques and expertise to industrial physicists in the community.

The department invited research managers and scientists to visit its laboratories to discuss research work.

The Dean of Science, Professor John Swan, welcomed participants and mentioned some of the existing interactions between research groups in the Science faculty and industry.

The Chairman of the Physics department, Professor Bert Bolton, addressed the gathering also.

Professor Bolton said that, in his opinion, the difference between pure and applied research in physics was an artificial one.

Good problems needed good physics, done by good physicists, he said, and the solution of any physics problem demanded as much fundamental physics as could be called to its aid.

Professor Bolton said that a drop in the number of students taking physics was a world-wide problem. He said efforts were being made in the Monash department to secure more research studentships and assistantships.

It already had some research students funded from industry and shared with a government laboratory, he said.

Photo: Ken Nuske

Computerised medical patients, social work clients, seekers of legal aid . . . and now, a crowning delicacy — computerised mushrooms.

They're all part of the computer aided approach to learning which has been pioneered at Monash by the Higher Education Advisory and Research Unit in association with several departments.

The mushrooms, or more particularly a classification procedure for the common genera of gilled fungi (mushrooms and toadstools) in Australia, form the latest subject to be incorporated in a computer program for student use, in this case for Botany students who study gilled fungi as part of an introduction to mycology (study of fungi).

Senior lecturer in HEARU, Mr Neil Paget, had the idea for such a program after he saw a copy of *A Field Guide to the Common Genera of Gilled Fungi in Australia*, published last year by Mrs Mary Cole, Mr Bruce Fuhrer and Associate Professor Albert Holland of the Monash Botany department.

The core material of the guide is a key which a student can use to classify his specimen fungi by working through branches of identifying features.

As an example, the most straightforward identification path is for the *Coprinus* genus: gills free — spores black — cap and gills liquefy on

maturity — *Coprinus*. But the more complicated ones can require decisions on identifying features at up to 12 steps and the path to classification resembles a tree more thickly branched than the best connected Toorak family's.

The computerised method is for use in the laboratory with specimen alongside. The program was devised by Dr Natalie Kellett, HEARU lecturer.

Starting with the question "Gills attached?" the program runs along the branches of the classification process posing questions which follow on from the previous response.

The student can respond through the computer terminal keyboard with a symbol for "yes", "no" or "don't know". In case of a smooth flow through to identification the computer lists the identifying features at the end. In the case of a "don't know" the computer lists the features identified so far and runs through the possibilities which remain with a final suggestion, "Please consult your lecturer for further help".

Mr Paget and Dr Kellett say that such classification exercises are ideally

sued to the computer. It allows students to economically practise their skills in repetitive tasks, reviewing information as it is gained.

They say the computer can also be useful in areas such as medicine, social work, special education and the law in creating mock student-client contact situations or "dramatising" case studies.

On computer are programs, for example, for medical students which allow them, with great flexibility, to take histories from "patients" with specified symptoms of an illness, reach a diagnosis and recommend treatment.

In social work and special education, case studies of people with problems have been programmed. The program works through different options for diagnosis and treatment of the client calling for a student response at each stage. It can assess the student's competence based on his responses.

Mr Paget and Dr Kellett say: "Such programs can be valuable in providing a comfortable halfway step between the text book and face to face contact with real patients".

They say that once such systems are

running they are economical compared with, say, test books used in medical examinations now which, like the computer, call for student responses at different steps of diagnosis and treatment but, once marked, have no further use.

The act of examining a subject in light of the needs of a computer program can give new insights into the subject.

Senior lecturer in Social Work, Dr Norm Smith, says he has found this the case for the helping professions like social work where the principles and purposes are not clearly defined.

Dr Smith says that the process of translating a problem and the problem solving procedure into terms for computer simulation requires a preciseness from which it is possible to learn something about the problem solving procedure itself.

And to the criticism that the multiple choice approach used in some of the programs discourages original thought and encourages an attraction to what "looks right", the computer has its own reply.

In a special education exercise the computer asks the student why a previous response was chosen. To the option, "It looked like the correct response," comes the stern reminder: "There is no necessary relationship between being successful at multiple choice examinations and being a good therapist."

Computerised mushrooms



Visiting Oxford professor John Fennell (left) with Professor J. Marvan, professor of Russian at Monash.

'MONGOLS BROUGHT STABILITY'

The Mongolian invasion of Russia in 1237 heralded a period of destruction, historians have widely accepted.

But now a new study by a professor of Russian literature at Oxford University, Professor John Fennell, has challenged that opinion. Far from smashing Russia the invading Golden Horde of Mongols brought stability and laid foundations for the modern Russian state, he says.

Professor Fennell visited Monash's Russian department last month as part of an Australian tour, his first, sponsored by the Russian/Slavonic departments of Monash, the ANU and the Universities of Melbourne, New South Wales and Queensland. He lectured at Monash on "Lermontov's Lyrical Poetry" and "Alexander Nevsky — A Reappraisal".

Professor Fennell says that in their 240 years of occupation the Mongols contributed to Russia's economic and political stability and encouraged centralised social organisation. During this period

Moscow emerged in importance, and influence became concentrated in the north-east. It was a productive period, too, in Russian literature and the arts.

Professor Fennell has reached his conclusions about the nature of the Mongolian invasion from research chiefly on Russian chronicles available in printed or manuscript form.

Born in 1918 and professor of Russian at Oxford since 1967, Professor Fennell is well-known for his work on medieval Russian literature and history and 19th Century Russian literature.

His bibliography lists nine monographs.

Of today's Russian authors, he says the best work is coming from those in the dissident movement.

"The dissidents who have emigrated are producing an exciting, flourishing literature," he says.

In the Soviet Union itself there are several authors of interest, he adds, particularly writers of country prose — a popular form of expression dealing with pastoral themes.

First scholarly look at modern Australian drama



BOOKS

Peter Fitzpatrick's new book on Australian drama, *After 'The Doll'*, has the distinction of scoring two firsts.

It is the first volume to be published in a new Edward Arnold series "Studies in Australian Culture," edited by John Colmer and intended to exhibit "the unique value of literature and the other arts as a revelation of the life of a rapidly evolving organic society." And it is the first full length book to be written on Australian drama by an academic. It is this latter distinction which makes it a significant and valuable addition to the slim amount of critical material available on Australian drama. It will quickly become the benchmark for future Australian dramatic criticism.

The book is suitable for both the serious student of drama, who will find much that is critically provocative, and for the general theatregoer with a greater interest in Australian drama than a performance and program notes can provide. It is a book to dip into rather than to read straight through. It has three general chapters, one at the beginning (Births, Deaths and Renaissances"), one in the middle (" 'Rough Theatre' in Melbourne and Sydney"), and one at the end ("And Now For Something A Little Different?"), all of which should be read together, before the chapters on the individual playwrights are tackled — Ray Lawler, Patrick White, Alexander Buzo, David Williamson, Jack Hibberd, Dorothy Hewett and others.

Peter Fitzpatrick is a lecturer in the department of English. He plans a production of *Inner Voices* by Louis Nowra at Monash in May next year.

Peter Holloway is a lecturer in the Department of Language and Literature, Melbourne State College. He has edited a collection of critical articles on Australian drama for Currency Press entitled *Contemporary Australian Drama: Perspectives Since 1955*, to be published in early 1980. In June this year he delivered a paper on 'Contemporary Australian Drama: Some Problems of Its Criticism' at a conference on Australian Literature in the Twentieth Century, in Augsburg, West Germany.

Not only is Fitzpatrick's breadth of knowledge of contemporary Australian drama formidable (he considers several hundred plays and a score or more dramatists), but also his understanding of drama and of theatre in general. He is able to address himself very fairly and very adroitly to a great variety of writing, ranging from the naturalism of Williamson to the black comedies of Buzo to the committed non-naturalism of Hibberd.

Critically, he sees 20th century Australian drama as being constricted by a commitment to "naturalistic form and a concern for cultural definition".

Its apogee was *Summer of the Seventeenth Doll*, which also sounded the death-knell of that approach. It is in the last decade in particular that Fitzpatrick, and most observers, see Australian

drama being liberated from those twin demands. He is at his most stimulating when writing of the movement away from naturalism and national identity — witness his perceptive and partial discussion of *Inner Voices* by Louis Nowra, arguably the most important new play of the late seventies.

Fitzpatrick's other concern in the book is with the language of the plays, a concern which he states unambiguously in his preface. Some of the best discussions in the book are to do with language *per se* e.g. the characters' struggles with language in *The Doll*, Monk O'Neill's 'languages' in Hibberd's *A Stretch of the Imagination*, the relationship between power and language in *Inner Voices*.

It is to be hoped that this important new book will stimulate new interest in the large corpus of Australian drama now published and available for critical appraisal. Much critical work remains to be done on all Australian playwrights, especially those of the last decade. Lawler and White have received excessive attention. The work of Hibberd, Kenna and Romeril, for instance, has been neglected for too long — for example, only one academic article has been published on Jack Hibberd's plays, though he has written more than 20 in the last 13 years.

After 'The Doll' is highly recommended to all those interested not only in the development of Australian drama, but in the development of Australian culture generally.

Peter Holloway

Immigration: A multi-sided appraisal

Refugees Resources Reunion: Australia's Immigration Dilemmas. Ed Robert Birrell, Leon Glezer, Colin Hay, Michael Liffman (Melbourne, VCTA Publishing Ltd., 1979).

It is trite to say that when Arthur Calwell presided over the beginning of the post-war immigration program a massive change began.

The Chifley government introduced the program for conventional humanitarian reasons; it was continued by that government because wartime experiences had convinced it that adequate defence required a larger population. With the echoes of Hiroshima and Nagasaki still to be heard in the land, this proposition was surely a little doubtful by the late 1940s.

Why and how the migration intake has continued for 30 years is less easy to understand. Anyone, however, who has worked even on the fringes of immigration planning must suspect that the Immigration Department has provided a constant thrust towards larger immigrant totals, and that it has done this because it has seemed to be the way to the pinnacles of inter-departmental power.

More than one view

Refugees Resources Reunion does Australians a genuine service. It points to the fact that it is possible to appraise immigration in terms more pragmatic than the fatuous pieties that characterise its political discussion, and it indicates that it is possible to have more than one view on the effects of past and future migration.

Views on migration have been sadly lacking: one gets the impression that none of the contributors to the volume would argue that Australia's current population mix is the outcome of popular choice, that had the Australian people been asked at any time since 1948 they would probably have voted that they wanted no more migrants. The contributors seem largely unconcerned about this, preferring to tackle the issue itself, rather than the processes, or lack of them, giving rise to the problem. Democracy, as is so often the case, is dispensable to the enthusiast.

Of the three sections of the book — (i) Perspec-

tives (ii) Claims and Counterclaims and (iii) Reconciliations — the second is both the physical and intellectual core, for here the dimensions of the debate are made clear, the papers by Robert Birrell and Kenneth Rivett being especially valuable.

The question is, of course, whether or not we should take more migrants; those arguing the pro case can find little positive economic support for their case, and are forced to argue on normative humanitarian grounds. It is left unsaid that the burden of bearing this moral duty will fall most heavily on the lower paid manual workers who have not been consulted by the contributors to this book, any more than their fathers were consulted by the originators and perpetuators of the program.

The alternative case argued cautiously by Birrell is that there are limits to the nation's capacity to absorb, indefinitely, migrant increases of the proportions of the past 30 years. While Birrell's argument runs in terms of our physical and economic endowment, another dimension is suggested by the discussion in Section (i) on family reunion. Obviously, many recent migrants originate in societies in which extended family systems are the norm, and equally obviously the Australian norm is the parents-children relationship. In arguing, as many of them do, that for immigration purposes, 'family' should be interpreted in a broader sense than the Australian, the pro-immigration people may have a good case.

It is, however, symptomatic of the trend in any discussion of this issue to ignore or reject an Australian culture and its values. Just as our physical resources may be too fragile to sustain much more migration, it must be doubted that the Australian character can survive if its values are persistently ignored, ridiculed or treated as mild trauma.

This is not to suggest that societies should be immune from the evolutionary process, but that generosity and hospitality do not necessarily involve self-abasement.

Associate Professor W. Howard
Administrative Studies.

Monash poet a 'Westerly' prize winner

Senior lecturer in Monash's English department, Mrs Jennifer Strauss, was one of four prize-winning Australian poets in the recent Western Australian 150th Anniversary Literary Competition. The competition was conducted by *Westerly*, a literary magazine published quarterly by the University of Western Australia English department.

Reporter reprints Mrs Strauss's winning entry:

AFTER A DEATH

Last night I dreamt of the Pittsburgh tunnels
Piping the traffic under the winter hills:
To grope half-sighted in a narrow passage
Shut by the grinding weight
Of earth's bones and flesh, the thud of its rivers,
In an underground of exhausted air
Walled by a dark and pestilential pallor
Lit spasmodically by sickly glares,
The big trucks swimming up like lanterned leviathans,
Great gouts of mud and snow packed to ice
Slopped from their warmed metal underbellies.
Everything slithery — sweat along the hairline,
At the upper lip, fingers wet on the wheel,
Eyes popping at lids
Screaming for light at the end of the tunnel
Let, let, let me
(panic of dying, panic of birth)
Out.
That's how it was in sixty-seven: a hard season,
Strange to all comers, we grew foreign
Even to each other; had to learn
A new language, to put out tentacles of trust,
To touch, grasp, Patience.
Wait for the spring, you said. At winter's end
We started our third child.
Last night I dreamt of the Pittsburgh tunnels.
I was re-making history, entering joyfully, singing.
Certain you waited in light at the tunnel's end
And I Eurydice coming to fetch you home,
Not dreaming in dreams you ever could turn away
Unteachably into the dark.
I woke too soon.
The spring wind rattling the door
Was herald to no-one but itself.
Our cycle's done: you will not come again.

Jennifer Strauss



Brenda Niall, *Seven Little Billabongs: the World of Ethel Turner and Mary Grant Bruce*, Melbourne University Press, 1979, pp.xii + 219, \$17.60.

Review



'Elegant' study of two women who wove childhood dreams

Reviewed by John Rickard

● The author, Miss Brenda Niall, is senior lecturer in the English department. Dr Rickard is senior lecturer in History.

'Killed Judy to slow music' Ethel Turner noted in her diary one day in 1893. Those of us who cannot, even now, read that chapter without a lump in the throat may be just a little dismayed by Ethel Turner's evident satisfaction in her killing off of Judy in *Seven Little Australians*.

But of course she knew what she was doing, and it was part of her achievement that she was able to take a traditional Victorian tableau, the death of a child, and charge it with a new and, in a sense, Australian emotional quality.

Brenda Niall's account of 'the World of Ethel Turner and Mary Grant Bruce' will appeal to many who have childhood memories of *Misrule* or *Billabong*; it is also a serious study of the work and values of two very important Australian writers. Their importance can be gauged by the fact that Brenda Niall estimates the total sales of Mary Grant Bruce's 39 books to be in the order of two million copies, and presumably Ethel Turner's figures would be comparable.

The careers of the two writers offer many parallels. Their lives spanned the same period (both were born in the 1870s and died in 1958) and their books were published by the same firm, Ward, Lock. (There is no suggestion, however, that they ever met. A challenge, perhaps, for an imaginative playwright?) Both started out as journalists and wrote in order to make a living. Ethel Turner wanted to escape being a governess; Mary Grant Bruce seems mainly to have wanted to escape Gippsland. Both married (though Mary Grant Bruce held out till she was 36) and both combined marriage, and two children, with their writing. Mary Grant Bruce's tally of 39 books was matched by Ethel Turner's total of 44.

Yet the differences between the two writers are perhaps even more interesting than their similarities. Ethel Turner's world was urban - and Sydney at that. She was interested in social problems and once described herself as 'always more than a bit of a socialist'. As a writer she was, Brenda Niall argues, better at characterisation than plot, and she did, at times, seek to escape her apparent fate as a writer of children's books. Her values are matriarchal: 'fathers are dispensable in the Turner world', Niall observes, 'mothers are not' (p. 178).

This, as the case of *Seven Little Australians* indicates, is not to be taken literally; rather, that 'mothers and sisters' provide the 'essential moral influences' (p. 180).

The world of Mary Grant Bruce is the bush, and *Billabong* is situated 'somewhere in northern Victoria'. Cities produce weedy little snobs who smoke cigarettes, whereas *Billabong* is a pastoral paradise inhabited by tall people, where something called 'mateship' is reconciled with an implicit sense of social hierarchy. There is no disputing Mary Grant Bruce's conservatism, and it is no surprise to learn that for several years she edited *Woman*, the journal of the Australian Women's National League. Her characters are stereotypes, and she is much more interested in telling a tale of adventure than in exploring human relationships. 'I was more or less forced into marrying off Norah and Wally eventually', she later confessed, 'but beyond that I drew the line' (p. 182). The values of Mary Grant Bruce are patriarchal, and Norah, however much a stereotype of the independent colonial girl, derives her 'moral strength' from her father.

Historical significance

Brenda Niall explores these contrasts in terms of a number of themes of historical significance, including the perceived qualities of the Australian child, the city and the bush, the imperial relationship, racism and the family. All of these chapters offer interesting insights for the social historian. At the outset Niall makes clear that she is not 'much concerned with questions of literary merit' (p. 4), and the very title, *Seven Little Billabongs*, magnificently establishes the dominant tone of affectionate irony. Yet this approach does, perhaps, do Ethel Turner a slight disservice, for she is, whatever her faults and excesses, without a doubt the better writer. It is interesting, for example, to learn of the *Bulletin's* acclaim of Turner as a serious

Australian writer. Mary Grant Bruce, whatever charms her books might hold, is fair game for a social analysis; but with Ethel Turner there is a call for something more. Brenda Niall does at times provide this, but the framework is necessarily limiting. Why was it, one can't help asking, that Ethel Turner's remarkable literary achievement in *Seven Little Australians*, published when she was all of 22, was not really equalled by any of her subsequent novels?

And about Judy, too, there is surely more to be said. Brenda Niall admits that Ethel Turner 'was acute enough to see the dangers of letting Judy grow up' (p. 65) and compares her fate with the survival of Jo from *Little Women*. Judy's death not only provided a convenient emotional climax for the novel, it also removed a disturbing female rebel who in maturity might not have been satisfied with the social conventions which governed even her creator. Judy alive might have been, like Jo, effectively put under adult sedation; but, alternatively, the confrontation might have been a creative challenge for Ethel Turner. But those sorts of questions might require another book, and another kind of analysis.

As it is, *Seven Little Billabongs* is a well researched and elegantly written piece. It also boasts a pleasant smattering of illustrations, including some of A. J. Johnson's attractive line drawings for the early Turner books. In the case of Mary Grant Bruce a few of the original illustrations are supplemented by a map of *Billabong* and three new sketches by Mary Steele. These modern contributions, however charming in their own right, are misleading to the casual reader and out of keeping with the realistic but wooden style of the original illustrations for the Grant books. And what is missing, of course, is the very frontispiece from *A Little Bush Maid*, to which Brenda Niall refers, of 'Norah Linton in divided skirt, linen jacket and flowing tie, gazing devotedly at her pony' (p. 1).

But these are quibbles. *Seven Little Billabongs* works both as an entertainment and an historical study. Devotees of Ethel Turner and Mary Grant Bruce need not fear that their idols have been desecrated. I, for one, will still shed a tear, whenever Judy is killed to slow music.

John Rickard.

Why bids to float maritime education failed

The Working Men's College tried it and failed. Melbourne University toyed with the idea but abandoned ship. And the pattern was repeated in other States.

Attempts to provide education for the merchant service master and mate and the seagoing engineer in a formal educational institution were doomed to failure during the half century to the early 1920s which saw expansion and change in the Australian mercantile marine.

Why this was the case is explored by principal tutor in Education at Monash, Dr Ann Shorten, in a chapter titled "A School for the Mercantile Marine" in *Melbourne Studies in Education 1979* published by Melbourne University Press.

Dr Shorten says the only effective provision for maritime education was made by private initiative in this period.

The education offered was simple and pragmatic. Private coaching schools were established by shore-based members of the seafaring professions to prepare their students to pass Marine Board examinations. The exams led to the imperially valid Certificates of Competency which were mandatory legal qualifications required for employment as a master, a mate or an engineer of a foreign-going or Australian trade British ship.

Melbourne's first nautical school appears to have been established by Captain William Browne, a marine sur-

veyor, of Douglas Parade, Williamstown, who, in an advertisement in the *Williamstown Chronicle* in 1867, informed "Masters, Mates and Others" that he was a "Teacher of Practical Navigation, Nautical Astronomy and Law of Storms."

Later attempts by educational institutions to take maritime education on board foundered for a number of reasons, Dr Shorten says.

One was that the mariner's lifestyle was never conducive to steady study ashore in either full or part-time courses, however vocationally relevant the courses may have been.

Another was the influence of the legal basis for maritime education, the imperially-valid statutory qualifications. They provided a reputable

recognised structure for the professional training of Australian merchant service officers which proved an intractable obstacle to those who would provide the education within formal institutions.

This year's edition of "Melbourne Studies in Education" is the 21st. It is edited by Stephen Murray-Smith.

Among other contributors are Monash professor of Education, Professor R. J. W. Selleck, who pays tribute to the recently retired Dean of Melbourne University's Education Faculty, Professor A. G. Austin, in a chapter titled "A Scholar, and a Ripe and Good One," and Vice-Chancellor of Sydney University, Professor Bruce Williams, who writes on "The New Arithmetic of Education."

Frustrations in the bid to paint a petrified scream

"There is no satisfaction in it," says English artist, John Walker, discussing his life's work.

"Certainly there's a momentary joy when the light goes in your painting but there's never a time you can say 'I've got it'. You can always say 'I want it'."

John Walker, 39, is sitting in a small room on the sixth floor of the Menzies Building. ("This environment, the isolated room or studio, is typical of the one in which an artist leads his monastic life," he says.)

Walker is at Monash for several weeks in the Visual Arts department. He prefers to describe his status as "visiting artist" rather than "artist-in-residence". An artist-in-residence, he explains, creates a studio on campus so that students can see an artist at work. He performs.

In the short time he will be at Monash, rather, he will be discussing painting and contemporary issues with the department's students and staff.

Walker is no stranger to the university environment. Born in Birmingham he did his initial art training at that city's College of Art before winning a Gregory Fellowship to the University of Leeds. In 1969 he crossed the Atlantic after winning a Harkness Fellowship and later taught at Cooper Union in New York. In the last four years he has been visiting professor at the Yale University Graduate School of Art, artist-in-residence at St Catherine's College, Oxford, and visiting professor at Columbia University in New York.

He has studios at Kew, in England, and in New York.

Walker says both artist and the student of art can benefit from a visiting appointment such as his.

He says: "The artist has something to learn from the art historian and the art historian something to learn from talking with an artist. It is possible for an art historian to pass through life without meeting a painter or, for that matter, a painting."

He says the artist is not out of place with members of other disciplines in a university either. The medical profession is more visually oriented than others, he says. And he finds psychologists interested in his imagery.

"I think I worry them," he says, smiling.

While Walker is not attempting to create a studio at Monash the floor of his room and his desk are covered with large sheets of cardboard on which he has drawn and painted symbols.

The artist, he says, is like an athlete

and must train, with brush, charcoal or whatever, keeping his eye and hand in shape.

In the room his own work is interspersed with open fine art books and it is names like Rembrandt and Picasso he invokes in discussing his view of what painting is about.

He says: "Subject matter is only one aspect of painting. Painting is about painting, continuing a tradition."

"The best artists concern themselves with making a contemporary poignant statement with paint."

An artist's role, he says, is to make something that has never been seen before.

Great art, too, has the dimension of communication between viewer and artist. The artist has imbued his painting with a human presence.

Walker says: "In Rembrandt's work, for example, we can feel Rembrandt through his subject. There is a form of direct communication between you and the artist which has survived the centuries. It is a high human activity."

While Walker says that he can recognise such communication he doesn't know how to achieve it in his own work.

The last 15 years have been ones of frustration, he says, and only now he considers he is "beginning to paint."

Walker says that in his own work he is attempting to find an abstract equivalent for figurative imagery.

"I am trying to find a sign for everything, trying to articulate a range of feelings visually," he says.

He says that he would like to paint "a petrified scream": make a vivid, powerful, emotional statement in paint meaningful to other people.

A work is never complete, he believes, until it looks at the viewer and not the viewer at it.

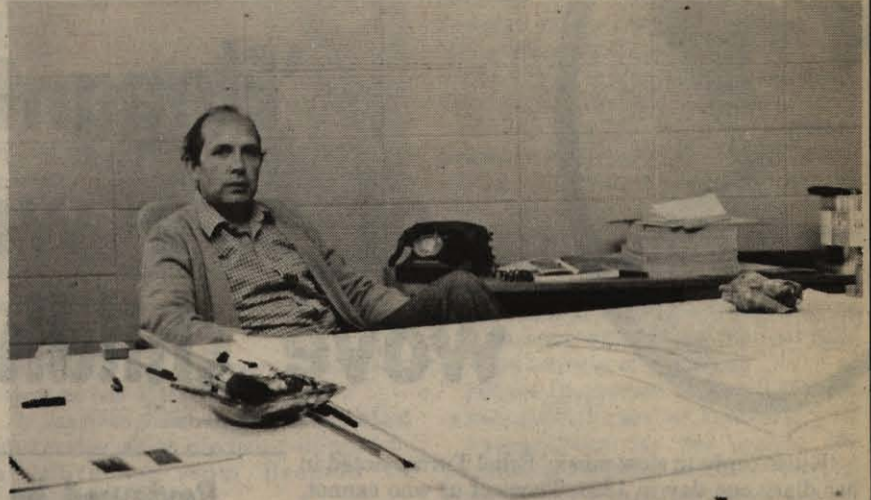
As throughout history, Walker says, artists congregate around their patrons which makes New York the capital of the art world today.

The gathering of about three to four thousand artists in a few blocks in that city is a phenomenon unparalleled in size in history.

He says: "The energy leaps at you from the pavement."

Walker is on his first visit to Australia but is familiar with our artists and their work.

"Australian artists are terrific travellers," he says. "They are always visiting my studios. It is nice to be here and able to visit theirs."



● Artist John Walker ... an artist leads a monastic life.

Photo: Rick Crompton.

A holiday to hold forth

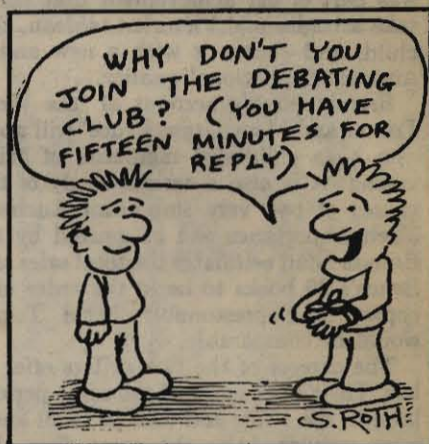
If summer makes you hot under the collar the Monash Association of Debaters is providing an opportunity to let off steam.

The Association is organising a Summer Debating Competition to be held in the Union over the vacation months.

The competition will be a five round "Swiss movement" - teams will compete against other teams of a similar standard as each round progresses. Teams will be arranged to ensure that all participants have a fair chance of doing well.

The competition will have a social side as well as the debating with parties, a barbecue and, after each round, a wine and cheese event being planned.

The competition is open to all, with Monash students and staff having priority. Entries close on November 30;



early entries will receive preference.

Anyone interested in taking part or being a member of the audience should contact Sue Heistein on 596 1660, or David Bentley on 232 4282, for full program details.

SUMMER DIARY

19-21: INTENSIVE COURSE - "The Engineering of Solid-Catalysed Gas Reactions", pres. by Monash department of Chemical Engineering. For further information contact Mrs B. White, ext. 3420.

22: ILLUSTRATED LECTURE - "Leather as a Living" - a look at contemporary leather craftsmen working in Australia, by John Simson, Leatherworkers Guild of Victoria, followed by discussion and coffee. 8 p.m. Arts and Crafts Centre. Admission: \$1. Inquiries: ext. 3096.

22-23: WORKSHOP - "Chemical Reaction Engineering", pres. by Monash department of Chemical Engineering. For further information contact Mrs B. White, ext. 3420.

23: CONCERT - organist Douglas Lawrence, the Chapel Singers and the Wednesday Consort. 8.15 p.m. Religious Centre. Admission: adults \$3; students and pensioners \$2, by program available at the door or from the Chaplains' Office. Net proceeds to the 1980 Autumn Organ and Harpsichord Festival. Inquiries: ext. 3160.

27: CONCERT - "An Evening of Family Entertainment", with Triad, The Syndal Technical School Show Band, The Australian Children's Choir and other artists, presented by Pinewood Music Studios. 8 p.m. RBH. Admission: adults \$3.50, children \$2.

29: 1979 CHAPMAN ORATION - "Feat on the Ground - Human Habitat", with guest speaker Mr John Bayly, Chairman, Town and Country Planning Board. Pres. by Institution of Engineers Australia. 8 p.m. RBH. Admission free.

30: CLOSING DATE for entries in Summer Debating Competition presented by

Monash Association of Debaters. Approx. one round per fortnight from early December to late February. Registration fee for participants: \$2. Spectators welcome, admission free. For further information contact Sue Heistein, 596 1660; David Bentley, 232 4282.

DECEMBER 1: CONCERT - City of Dandenong Band with guest artist Norman Yemm. 8 p.m. RBH. Admission: adults \$4; students and pensioners \$2.

5: LECTURE - "Stained Glass in Australia Today and Tomorrow - the Prospects for Revival", by Derek Pearse, including an illustrated review of works by Chagal, John Piper, Leonard French, and others. Lecture followed by discussion and coffee. 8 p.m. Arts and Crafts Centre. Admission \$1. Inquiries: ext. 3096.

8: CONCERT - St. Gregorius Dutch Male Choir with Liedertafel Arion, Australian Children's Choir, the Good News Singers, Box Hill Salvation Army Citadel Band, with guest artist Tony Fenelon, and compere Peter Thomas. 7.45 p.m. RBH. Admission: adults \$4; students, pensioners, children \$2.

15: CONCERT - National Boys' Choir Christmas concert. 8 p.m. RBH. Admission: adults \$4, \$3; students, pensioners, children \$2.

JANUARY, '80: SCHOOL HOLIDAY ATTRACTION - "Beauty and the Beast". Alex. Theatre, performances twice daily.

MONASH REPORTER

The next issue of Monash Reporter will be published in the first week of March, 1980.

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

SCHOLARSHIPS

The Academic 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.

Humboldt Fellowships

Tenable for up to two years, in any field, in Germany. Ph.D. graduates under 40 may apply. Benefits include monthly stipend, fares, family and other allowances. Application can be made at any time.

Amelia Earhart Fellowships

For women who will be full time students

and have career objectives in aerospace-related fields; value \$5000; tenable anywhere. Applications close in Chicago, on January 1.

Royal Commission for the Exhibition of 1851 Science Research Scholarships.

Open to postgraduates in the physical and biological sciences, pure and applied. Tenable abroad. Valued at 2,500 pounds p.a. plus allowances. Applications close at the Graduate Scholarships Office, February 22.

Rutherford Scholarship

Open to postgraduates of exceptional ability and promise to undertake three years research in the natural sciences. Valued at 2,250 pounds p.a. plus allowances. Applications close at the Graduate Scholarships Office, February 22.