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 Omen" and Seven Little Billabongs appear in a books section on pages 18 and 19.

Matheson organ on way to RBH

The organ being built for Robert Blackwood Hall by German builder Jürgen 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 to begin, 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
A significant 'landmark in organ building this century,' he calls Melbourne. A very impressive building this century. The player feels. A very impressive simplicity. It is devoid of frills and fuss. This is particularly evident with the overall feature.

The concept of the mechanism is 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 most is its beauty and its simplicity. It is devoid of frills and fuss. This is particularly evident with the overall feature.

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 oak which should blend perfectly into the Hall". He describes the organ as a great resource for RBH which has an established 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 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.

The concept of the instrument is simplicity. "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 Nations, a body funded by the West German Government which promotes cultural exchanges between the Federal Republic and other countries. Inter Nations' sponsorship follows the efforts of the Consul-General of the Federal Republic of Germany in Melbourne, Dr F. J. Kresser. 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 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 finishing work.

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 (seldom, apparently), an engineer has found glory in the morning closer to home and applied his artistic capability to capturing it on paper.

"Morning Glory" is the title of a painting by final year Mechanical Engineering student, Cheah Alk 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.

Inspirations, perhaps, by work with spaghetti, ladies have been taking macaroon 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 received 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.

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, who 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 of the number of volunteers
2. The burden of fund-raising falling on the same people each year.
3. The need to focus on new and 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 to functions. There might be a better response if these events were better promoted.

He published 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 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 Market which this year raised $2000.

President: Mrs Wilma Atkins, 99 2574.

Monash Women's Society

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

President: Mrs Margaret Krishnapillai, 544 7128.

Friends of the Monash Library

Current membership 90. Holds frequent meetings and lectures to raise funds for the various libraries.

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

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).

Would like to see more members - particularly from among graduates.

Contact: Mrs Joan Kiroup, 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. Past two years they have raised $500 for the Library.

President: Mrs Joan Marias, 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 training period.

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

Krongold Graduates and Friends

This group is run by parents of exceptional children - either handicapped or exceptionally bright - associated with the 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 Loyal, 886 8804.

Monash Graduates and Friends

An entirely voluntary body, MGF 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, 490 7382.
Light dawns on Morning Glory

A team of meteorologists from Monash and Flinders 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 coastal 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, says that data gathered on the trip has thrown light on the origin and structure of the Morning Glory about which there has previously been very little detail. Some 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 clouds. 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, in charge of the Australian Numerical Meteorology Research Centre, and his wife, Elaine, were also on the trip 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 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.

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

The service can be contacted on 429 111.

MONASH REPORTER

November 1979
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 1980’s, will include an analysis of the impact of the likely slowdown in world economic growth brought about by seemingly intractable 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 1970’s, will continue spaces with some important effects on Australian manufacturing.

“The effects of the energy crisis on business and an analysis of the nature of the boom in energy and mining production — with likely major developments including the $3000m. North-West Shelf project, the $200m. Rundle oil shale project, major steam coal developments, a number of uranium projects and a massive expansion of the aluminium 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 sector 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 ext. 2381 or 2307 or Mr Bowden on ext. 2469.

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 de-skilling 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 workforce.

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.

“During the past decade the decline in employment levels in the manufacturing sector in the 1970’s 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 1980’s 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 all employment in the service sector,” Dr Larkins said.

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 460 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 Nore 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 1980’s,” 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 1980’s, he said.

Dr Larkins said the Federal Government’s 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 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, an 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 quality of life.

“The real cost to society, not just to the company introducing new technologies, must be evaluated,” he said.
Altenatives 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 disorder and the face of rationing, and a weakening of its strategic position, Professor Lance Enderobee told a recent meeting of the Municipal Association.

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

At 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 Enderobee, 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 bring pressure 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 Enderobee 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 prospectives for oil demand and for oil imports is a major threat to ground control for all the other oil importers, particularly with prospects of limited oil supplies in world trade in the near future.

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

Ultimately, liquid fuels produced from coal, tar sands and oil shales, 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 Enderobee 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, off Northern Australia, where two drilling ships, costing $120,000 a day each, were drilling for oil through 1,500 metres of water, he said.

A number of conservation measures had already been introduced.

These included:

- World-wide pricing of Australian oil to refineries.
- Proposed changes in the octane rating of petrol.
- A review of vehicle exhaust emission standards, which would produce a 30 per cent improvement in 5 years.
- Adoption by the motor car industry of agreed fuel economy goals - engine modifications which would produce a 30 per cent improvement in 5 years.
- 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 for pool services, for example.

Australia's long term supplies of coal were assured and prospects for coal to oil conversion were good, he said, and 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 shale 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 few years," he said.

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

Growth

Professor Enderobee 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, he said, to operate at a higher quality level of technology and competitive international cost levels.

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

Computer education for the eighties

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

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 Brown, 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-

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 aspects, 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 well supplied 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 industries, 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.
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 was spending there during her fourth year studies to her holiday. 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. This 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 tranquillity which had reminded her of Japanese gardens in style.

This is the first year Monash students have fared well in the national finals. In 1974 Jamie Penney, a fourth year Arts student, won the open section; in 1976 Bobyn Spence, another fourth year Arts student, won it; and last year second year Medicine student, Peta Dennis, won it.

Tips on finding a summer job

Facing a thicket of deadlines 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.

This year information on vacation jobs will be posted on the board outside 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 their in place of work.

She says the weeks leading up to Christmas should be the best time for finding work. This is a period in which hotels, restaurants and stores are likely to be putting on temporary staff. In January, she warns, is traditionally a quieter month with many factories closing down for January. 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 buses 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:

1. They should, if requested, be prepared to join a union. In some industries, she says, unions have stepped in to give workers a degree of employment status — whether they are on casual or permanent staff. In different industries, all workers may be referred to the wages inquiries.

2. Julie would like to hear from anyone with job offers for students. She can be contacted on 03102012.

Basic science needs to be appreciated

As 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. Unhurried as it appears, basic science can be one of the remarkable achievements of recent times” — to illustrate the role of basic research “in alleviating the ills to which man is heir”.

“arbitrary 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 polo 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 polo 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 basic research and scientific climate to which many unrivaledgenius 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 attained in achieving 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 the opportunity, 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.”

November 1979

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A visit to human rights 'storm centre'

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 unsaid 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 have to live in a separate area, in which they have no right to have visitors of other racial groups, negating the ability of the professional man, say, to freely return hospitality."

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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 works handed in by February 9. Results published on March 24.

Valuable insights into the teaching profession

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

The B.Ed. summer program in the last two years has proved popular with students who have difficulty attending classes. It is not unusual for country teachers and administrators burdened by their school work and personal pressures to take advantage of their summer vacation to move their studies along at their own pace.

Each student body is prepared to offer courses in daily and evening classes. Students may take up to two subjects. The subjects cover:

- Childhood and Educational Development
- Educational Administration
- Curriculum Evaluation
- Science Education

Professor Weeramantry says that he did not see the reality of the situation in the country teachers and administrators are facing until he spent a summer in the Gold Coast.

"I have met women 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 boycotting the white community's doing it work to alleviate the disadvantage to the poorer people and to all the other races as well."

Professor Weeramantry says: "The patience of blacks is 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."

Individual's role

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

"Even though he 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 apartheid government. He says that talk of change has met hard line resistance from some Afrikaners, but approval from liberal whites. Including all races and religious groups, have helped greatly to mobilise opinion against its iniquities.

"If he sees this storm centre of the country he can make even government sit up and take notice. It can certainly produce more 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 apartheid government. He says that talk of change has met hard line resistance from some Afrikaners, but approval from liberal whites. Including all races and religious groups, 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 of students were 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."

"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 of the world community's doing it work to alleviate the disadvantage to the poorer people and to all the other races as well."

"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 more 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 apartheid government. He says that talk of change has met hard line resistance from some Afrikaners, but approval from liberal whites. Including all races and religious groups, have helped greatly to mobilise opinion against its iniquities."

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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.

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

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South Africa — how the world can act

From page 7

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"At the end of my visit one of the outstanding black leaders in Soweto told me: 'I am delighted that you have come'."
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 had 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 research, in research we have had to seek new orders of priority so that we may gain maximum 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 learnt 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 at 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.

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-geologically 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 said.

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 Townsand, who has had an impressive career in obstetrics and gynaecology and as Dean of Medicine at Monash University, received an honorary Doctor of Laws degree also. Sir Lance was co-author of the Syme-Townsend Report which highlighted some of the stories from 1979 issues of Monash Review, Reporter and Sound
Top scholarships for three Monash graduates

A Monash graduate won the Caltech Woman Graduate of the Year award in Victoria this year. Two Monash graduates also won prestigious "1851" science research scholarships this year.

Wendy Watts was named Caltech 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 1978 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 Ph.D. he is looking into parasitism on land and fish, examining such aspects as the control parasite, which take place when an electron is removed from an atom.

He has been examining the non-relativistic model state and intends now looking at relativistic effects. Only nine of the scholarships Ken and Hamish were 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 all over the British Commonwealth and in what we British Dominions at the time of the great scientific invention in the Crystal Palace — Ireland, Pakistan and South Africa.

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 production of oil from brown coal.

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 constructed 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 Beger and Dr Peter Uhlherr and former Ph.D. student, Guiller­ermo Sarmiento. The research student being supported by the Alcoa scholarship is Nguyen Quoc Ozu.

The researchers say: "We found that by vigorously shearing or mixing the red mud we could break its viscosity down from around 10,000 pose [poise are a unit of viscosity] to about 50 pose, 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.
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 have 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 apportioning their own administrative groups.

If you are a member of the scheme (or would like to join) we can give you 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.)

Glenn 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, In- formation Office, Monash University, ph. 541 0811, ext. 2002.

Roo's bound effortlessly 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 hop may involve 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 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 Dr Warren, a former M. Sc. student at Monash and Dr David Morgan, a former senior teaching fellow in the department of Electrical Engineering.

Physiological 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.

A Top: Dr Rich contrasts the size of a femur of a small dromornithid with a similar bone from an emu. Right: Tim Flinnery with one of the dinosaur finds.
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" parents?

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 also 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 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, maladjusted 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 other 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 circumlocutory 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 adopted persons, who have had access to all the papers about their natural parentage and their adopted person from having access to information about their natural parents.

The research has involved face-to-face interviews with 24 of the 70 members and has been made retrospective.

It has been of benefit to the Attorney-General and the Minister for Community Welfare Services, refuting the arguments on which the Committee's findings were based.

Mr Picton and Mrs Bieske have so far interviewed 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.

"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 whom I include myself, 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 no more to being a lawyer than the practical 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 introduction 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 means-tested loans; and a tightening of exclusion criteria in relation to Bachelor of Laws students.
Be energy wise ... like Sid

The self-satisfied little man you see here is Saintly 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 $600,000 a year. A number of measures introduced, or planned, by the Committee were reported in SOUND 32-79.

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

At the beginning of the winter, the temperature of the University's heating system was reduced to 20 degrees Celsius and, while the mildness of the season had not been a contributing factor, there has been a significant reduction in gas consumption.

On the last day of September, 1979, stood at 97,977.764 MJ compared with 100,616.065 MJ at the same time in 1978. (Unfortunately, this reduction has not reflected in the gas bill: an increase in the tariff meant that we paid $98,874 for that, 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 auxiliary boilers and, in order 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 occupants may be burning in a cold snap, 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 occupants may be burning in a cold snap."

Savings

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

"We can make considerable energy savings by letting the system operate as designed to do," he says and noted that, in order 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.

"We can make considerable energy savings by letting the system operate as designed to do," he adds."

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

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 teaching assistants
• A sizeable quantity of new equipment for several faculties.

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

FAUSA replies to AVCC statement

Sirs: I read in Monash Reporter, October 3, 1979, and in issue 30-79 of Sound, that the AVCC has offered to engage in 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 statement on Academic Staff Relations will be sent in the near future to the 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 involve state arbitration jurisdictions and to move from state to 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 non-elected. It cannot be activated by FAUSA. It cannot at present bear matters except as part of a general review. Its recommendations are based on State salary history and 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 its parties around legal points.

There are certain staff groups who 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 cumber-some 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 in 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.

P. LoF. Davalli
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 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 discontinue.

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 the Philippines.

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 Faith Union.

For further information about sponsor­ship contact Marie Blew on 24 3432 (home) or 598 7788 (business).
ARCC GRANTS 1980

HUMANITIES AND SOCIAL SCIENCES

New Projects

Prof. R. Baer
Refining the law relating to commercial enterprises
Dr. M. Burns
The distributional effects of immigration into New Zealand: an examination of the experience 1900-1975
Assoc. Prof. M. Clyde
Australia's language resources and needs.
Prof. J. D. Laggs
Western-educated intellectuals in Indonesia in the later stages of Dutch rule, during the occupation and revolution and in the early years of independence.

Dr. H. Love
Melbourne public theatrical performances 1845-1885

Dr. C. Maher
Dr. J. B. McLennan
Australia and New Zealand early priorities: a case study of the impact of a project to record in museum-catalogues three major collections of pictographs of pre-1961 letterpress materials held in institutions and private collections in Victoria.

Prof. M. Porter
A study of the overall impact on Australia of increasing international economic dependence.

Dr. N. Smith
Attitudes of newly trained social workers in Australia towards their work role.

Assoc. Prof. W. Steele
Bibliographical and textual studies in the work of D. H. Lawrence.

Continuing projects

Dr. A. L. A. Boursa
Learning retarded produced by the action of antibiotics and amino acids on neurone transmission on the developing brain.

Dr. J. Bradshaw
Human cerebral asymmetry: investigations with brain controlled by eye movements.

Mr. V. Nedelstein
An examination of the visual processing of the Victorian social worker's department.

Dr. A. R. Hiller

Dr. C. Chan
Sensitivity to noise: analysis of factors associated with mechanisms underlying sensitivity in mice.

Prof. R. Day
The components of psychosocial illusions.

Prof. R. H. Day
The development of perceptual

Prof. B. E. McKenzie
Visual processing of sentences.

Dr. D. Porter

Prof. D. E. G. Gilks
Price determination in international commodity markets with forward loading factors.

Dr. E. J. Hartford
The literary criticism of the young George Orwell (1903-1950).

Dr. W. Mabbutt
Comparative history of British scientists: pilot study.

Dr. D. C. Maher
Dr. R. O'Connor
Spatial organization within Australian metacommunities.

Assoc. Prof. J. J. Platt
The use of English in Singapore and Malaysia.

Assoc. Prof. E. D. Potts
Australian-American contacts during World War Two.

Dr. J. Powell
Conservation and environmental management in Australia 1914-1945.

Dr. A. Sayel

Ms. H. L. Turlis
Catalogue of ornithological records.

Assoc. Prof. J. Platt

Dr. J. S. Whittaker
and Mr. J. McClure

PHYSICAL SCIENCES

New Projects

Dr. L. Bennett and
Dr. F. Dyson
Development of new ray tracing techniques and their application to space and land based radio experiments.

Continuing projects

Dr. J. Cashion and
Dr. F. Clark
Dr. P. Clark
Dr. R. Clark
Dr. T. Finlayson and
Dr. R. Fleming
Dr. T. Hicks
Dr. J. Monaghan
Dr. J. Philpott
Prof. T. Smith
Assoc. Prof. J. H. Smith
The relationship between atomic and magnetic short range order in micromagnetic and supermagnetic alloys.

Dr. M. C. Tobin
Metal vapour lasers

Computational methods in optimum systems control.

New projects

Dr. D. Black and
Dr. G. Deacon
New orgonophosphorus chelate systems.

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Computational methods in optimum systems control.

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Dr. G. Deacon
New orgonophosphorus chelate systems.
"One of our real purposes is to produce the type of graduate who will carry the name and reputation of Monash," said Professor Karl Morsztyn, retiring of Monash'. Electrical Engineering department from which he retires at the end of the year.

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

He lists his best Ph.D. students: "Ian Wright, 1970, now in a senior position with the SEC; Norman Page, 1976, 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... systems the students go into the laboratory..."

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

"In the mid-60s the SEC made a further donation of a Westinghouse Network Analyzer worth about 50,000 pounds at the time. Monash is believed to be the only university in the world who was able to purchase such an analyser at this time."

Private industry too, says, played a major role in siding the department. Companies such as Wilco 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 given by the SEC and also the SEC of NSW in sending to Monash several postgraduate students to study for Ph.D. 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 the building started on a completely new type of Engineering System. Now, 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 was much to the remarkable cooperation built up between the department and industry.

For the first five years of the department's existence the SEC donated 9000 pounds a year to enable 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 order to study these phenomena in depth it was necessary to build a very sophisticated power system simulator which included a new type of fully electronic turbo-generator for which I think we were 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 Bussewijk, Dr Dave Wilcox, Dr David Gilles and Dr Tharam Dillon, professional office, 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 Monash International is the largest community science club in the world. As a student the club represented more than 1200 clubs.

People interested in the proposed club should contact the extension librarian of the Waverley Lions Club, Mr J. Devlin on 288 1098, or Mr D. Byrne on 552 2253 or 54 5746 (SH).--

- Lions Christmas Cakes, 1.5 kg. in size, are now available from the Physics department store (extension 3635), or the Monash Branch of the CBA. The cakes cost $3.50 each.
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 $67,100,000 over the three-year period.

It seeks an equipment grant of $5,195,000 in 1981, plus further substantial supplementation arrangements).

The submission also seeks for progressive incremental funding of recurrent grants from $54,000,000 in 1980 to $55,000,000 per annum in 1983, in order to point to a relative stability in which the University has had to absorb the "accumulative" incremental creep and other unavoidable expenditure not compensated for under cost-supplement arrangement.

The University says that the increases sought over current funds would, in normal circumstances, only be sufficient to return to the 1975 level of funding that the Tertiary Education Commission made 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, "we can only hope that for us the earlier restoration, the period of academic changes' despite cut-backs in recurrent funding.

The submission notes that increased admissions to the universities would raise loans for the balance, repaying them out of overheads charged on the research undertaken.

In the section devoted to Recurrent Fund proposals, the submission refers to the universities' proposals in relation to the exceptional prize raises for books and journals, currently running at more than 20 per cent per annum.

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

The submission adds that its proposals would increase the University's recurrent grant by 7% while the minimum increase judged by the Universities Council for a satisfactory quality and quantity of research should be 10%.

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 progressive increases in total enrolments from 13,190 (excluding 2245 higher degree students) in 1979 to 14,119 (2747 HD) in 1984.
- Forthcoming changes in the HSC examination under VEE would compel some adjustment in the process of selection and admission, but it is not intended that any significant changes in selection methods 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 places 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, "we now see how to enlarge our research activities and to promote increased growth in its graduate school, particularly since there is much research and advanced study, as a major activity for the next triennium.
- The recommendation of funding over recent years had inevitably meant some reduction in numbers both academic and general — but this had been managed through the process of natural attrition.
- Halls of residence face a number of problems with more than 1500 on the waiting list. Partly due to financial viability; these include: (a) the increasingly difficult task facing students of finding vacated accommodation even if there is space; (b) the process of stratifying personal financial resources to support available to students which, in real terms, has fallen.

Monash Council at its October meeting approved a Recurrent Funds Budget for 1980 of $53,977,000, with a capital grants to 1979 levels; major and minor works at December 1978 levels.) (Figures are at December 1978 cost levels.)

Below is a breakdown of the budget:

| 1980 RECURRENT FUNDS BUDGET SUMMARY STATEMENT | (Cost levels 1/1/79) | 1979 Recurrent Activities | Total | Increase
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1. Academic Activities</td>
<td></td>
<td>1980</td>
<td>1929</td>
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<tr>
<td>1.1 Teaching and Research</td>
<td></td>
<td>365.14 M</td>
<td>383.12</td>
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<tr>
<td>1.2 Aboriginal Research Centre</td>
<td></td>
<td>170.7</td>
<td>170.7</td>
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<tr>
<td>1.3 Trance Teacher Supervision</td>
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<td>3.45</td>
<td>3.45</td>
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<tr>
<td>1.4 P. G. Research Awards - G. L. A.</td>
<td></td>
<td>40.6</td>
<td>39.0</td>
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<tr>
<td>1.5 Outside Studies Programme, Appointment Costs</td>
<td></td>
<td>395.9</td>
<td>453.7</td>
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<tr>
<td>1.6 Supplementary Pensions</td>
<td></td>
<td>134.7</td>
<td>124.4</td>
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<tr>
<td>1.7 Total</td>
<td></td>
<td>1,849.3</td>
<td>2,020.1</td>
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<tr>
<td>2. Research Only - Publications Subsidy</td>
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<tr>
<td>2.1 Library</td>
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<td>2.2 Computer Centre</td>
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<td>2.3 Higher Education Advisory &amp; Research Unit</td>
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<td>2.4 Animal Services</td>
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<td>268.1</td>
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<td>2.5 Safety</td>
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<td>2.6 Art Collection</td>
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<td>2.7 Alexander Theatre</td>
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<td>2.8 Robert Blackwood Hall</td>
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<td>2.9 Sub-total</td>
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<td>2.10 Supplementary Pensions</td>
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<td>TOTAL 2.1 ACADEMIC ACTIVITIES</td>
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<td>3. Student Services</td>
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<td>3.1 Boarding</td>
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<td>3.2 Counselling</td>
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<td>3.3 Health</td>
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<td>181.1</td>
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<tr>
<td>3.4 Housing</td>
<td></td>
<td>40.2</td>
<td>40.2</td>
</tr>
<tr>
<td>3.5 Religious Centre</td>
<td></td>
<td>12.9</td>
<td>12.9</td>
</tr>
<tr>
<td>3.6 Warden of Union</td>
<td></td>
<td>50.0</td>
<td>63.7</td>
</tr>
<tr>
<td>3.7 Sub-total</td>
<td></td>
<td>247.2</td>
<td>267.5</td>
</tr>
<tr>
<td>3.9 M. U. Stipends and Allowances</td>
<td></td>
<td>12.8</td>
<td>7.2</td>
</tr>
<tr>
<td>3.10 TOTAL 3. STUDENT SERVICES</td>
<td>893.3</td>
<td>921.25</td>
<td></td>
</tr>
<tr>
<td>4. General University Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1 General</td>
<td></td>
<td>863.5</td>
<td>921.2</td>
</tr>
<tr>
<td>4.2 Major Building Renovations</td>
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<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>4.3 Supplementary Pensions</td>
<td></td>
<td>53.0</td>
<td>53.0</td>
</tr>
<tr>
<td>4.4 TOTAL 4. GENERAL UNIVERSITY SERVICES</td>
<td>1,017.5</td>
<td>1,077.25</td>
<td></td>
</tr>
<tr>
<td>5. Public Services - Continuing Education</td>
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<td>69.5</td>
<td>69.5</td>
</tr>
<tr>
<td>6. General Reserve</td>
<td></td>
<td>450.0</td>
<td>500.0</td>
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<tr>
<td>TOTAL BUDGET</td>
<td>53,977.0</td>
<td>54,164.0(1)</td>
<td></td>
</tr>
</tbody>
</table>

NOTES: (1) Actual grant was $54,285,000 excluding $8,000 for Evaluative Studies and $218,000 for Legal Workshop Course (Law Clinic Institute).
(2) I.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.

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 1988:

- Equipment grants $1,615,000; Major Projects (microbiology building) $1,020,000; Minor Works, site services $226,000.

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

November 1979

MONASH REPORTER

The 1982-84 triennium

The document is the outcome of many months of work by the Tertiary Education Commission Committee, chaired by the Vice-Chancellor. Professor Martin says the PTRC is in consultation with Monash.

It aims to define the directions Monash expects to take, it moves into infrastructure of funds for libraries, equipment, general maintenance end...
Computerised mushrooms

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 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 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 suited 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 giving students-clients clear and objective 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.

"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.

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.

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

"The dissidents who have emigrated to the west have become spokesmen for the modem Russian state," he says. Of today's Russian authors, he says the best work is coming from those in the north-east.

"There is no necessary relationship to what "looks right", the computer says 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.

Dr Smith says that the process of translating a program - a 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.

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.

"Mongols brought stability"
First scholarly book at modern Australian drama

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 Colman and intended to exhibit "the unique value of literature and the other arts as a revelation of the life of a rapidly evolving society. It is, first of all, 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 theatre-goer 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. With these three general chapters, one at the beginning (Births, Deaths and Renais...), another 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.

Immigration:
A multi-sided appraisal

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 substantial Australian population. With the deaths of Hiroshima and Nagasaki still to be heard in the land, this proposition was surely a little doubtful by the time it had run for 20 years.

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 apply immigration in a more pragmatic than the fatuous piety that characterises 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 gathers from the conference itself that the central aim of immigration planning must be to 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.

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The Working Men's College tried it and failed. Melbourne University toyed with the idea, but abandoned it. 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 ex-

penses of the imperial authority, Mantell's, mandated 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 surveyor, of Douglas Parade, Williams-
town, who, in an advertisement in the Williamstown Chronicle, had formed "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 findered for a number of reasons, Dr Shorten says.

One was that the marine's lifestyle was never conducive to sitting down to study either in 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 internationally-accepted qualifications. They provided a reputable recognised structure for the professional training of Australian merchant service officers which proved an irresistible 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. 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, a Ripper 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 you won't name it because 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 controversial issues with the department's students and staff. Walker will be the first artist to win a Gregory Fellowship to the University of Leeds. In 1969 he crossed the Atlantic, just earning his degree in Psychology at the Yale University Graduate School of Art. artist-in-residence at St Catherines College, Oxford, and is attempting to find an abstract equivalent for figurative imagery.

"I am trying to find a sign for everyting, trying to articulate a range of feelings visually," he says. He says that he would like to paint painting as well as painting with a human presence.

Walker says: "In Rembrandt's work, for example, we can feel Rembrandt's humanity in 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 does he consider he is "beginning to paint."

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

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Scholarships

The Academic Registrar's department has announced the following scholarships. The Reporter presents a picture of the award and further information can be obtained from the Graduate Scholarships Office, ground floor, University Union, Monash 3855.

Humboldt Fellowships

Available for up to two years in any field, in Germany. Fellowships are open to persons under 45 and 40 may apply. Benefits include monthly stipends and travel. For more information, contact the Scholarship Office, February 22.

Rutherford Scholarships

Open to postgraduate of exceptional ability and promise to undertake three years research in the natural sciences. Valued at 2,350 pounds a year plus allowances. Applications close at the Graduate Scholarships Office, February 22.

ROYAL COMMISSION FOR THE EXHIBITION OF SCIENTIFIC AND TECHNOLOGICAL INNOVATION

Held in conjunction with the Royal Commission for the Exhibition of Scientific and Technological Innovation, the competition will 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. There will be 20 rounds in total. 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 debating with prizes, a barbecue and, after the 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 for early entries will receive preference.

Anyone interested in taking part or being a member of the audience should contact Sue Heinstein on 588 1500 or David Bentley on 572 4282, for full program details.

A holiday to hold forth

If summer makes you hot under the collar the Monash Association of Debaters is proving 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. There will be 20 rounds in total. Teams will be arranged to ensure that all participants have a fair chance of doing well.

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