



# MONASH REPORTER

A MAGAZINE FOR THE UNIVERSITY

NUMBER 5

JULY 9, 1971

## OPEN DAY SPECIAL

July 10, 11 a.m. - 5 p.m.

★ Page 3: 'Come and see for yourself...'

★ Pages 5-8: Official Open Day program



**Official opening of Robert Blackwood Hall:**

*THE SCENE at the official opening of Robert Blackwood Hall on June 19.*

# SERVING THE COMMUNITY

*WITH the opening of Robert Blackwood Hall, Monash University has greatly enhanced its capacity to serve the community — particularly in the rapidly growing south-eastern sector of Melbourne.*

This was the main theme of the speeches delivered at the official opening on June 19.

Already the hall has proved a valuable addition to the university's facilities: On Friday, June 25, more than 1000 students gathered there for a Forum on the Indo-China War, organised by the Public Affairs Committee of MAS, and it has been in almost daily use for mid-year examinations over the past two weeks.

The next major public function will be a free Sunday concert to be given by the Melbourne Chorale on July 18, and on July 29 students have organised a forum on New Guinea.

Sir Robert Blackwood, after whom the hall is named, told 1200 guests at the

opening ceremony that a university needed a meeting place where formal ceremonial functions could be held, where speakers could expound their scholarship in public, and where music, drama and other intellectual pursuits could be indulged in to remind people of the objects and ideals for which a university existed.

The new great hall provided the means to meet those requirements and would also satisfy the intellectual needs of the surrounding community.

### Vision of the future

The Vice-Chancellor, Dr. J. A. L. Matheson, said he had a vision of the time when people would form the habit of coming to Monash regularly - for further education, for enlightenment, for interest and for sheer entertainment.

"This is surely as important a responsibility of a university, especially in these days of increasing leisure, as the more conventional undergraduate education which has been our main pre-occupation so far," he said.

Earlier, Dr. Matheson spoke of the achievements of the university during its first decade of academic work, and went on:

"These positive accomplishments have, unfortunately, been to some extent overshadowed in the public mind by the publicity which has been accorded by the media to the behaviour of some of our radical students.

"Nevertheless our academic reputation is a very solid one and it has come about, not by accident nor by the benign operations of the Australian Universities Commission, but because of deliberate policy decisions which Sir Robert Blackwood inaugurated and

which have been continued by my colleagues and myself.

"In these egalitarian days, it is fashionable to pretend that the contributions which students can make to academic policy-making is as significant as those which come from the senior staff.

"Although I myself believe that the student voice must be heard in all the governing bodies of a university, and welcome their creative participation in all our affairs, so long as that participation is creative and not destructive, it surely cannot be seriously contended that in matters of scholarship they are much more than apprentices.

"Indeed, although it is seldom admitted, they come to this and other universities for the express purpose of putting themselves under the influence of the academic staff, and the more distinguished the staff the more they want to come.

"Those of us who were among the first group to be appointed by Sir Robert and his colleagues on the Interim Council recall very vividly that while we were determined to

**Continued on page 3**

# MONASH SPEAKERS AT ANZAAS

Extracts from papers presented at the 43rd Congress of the Australian and New Zealand Association for the Advancement of Science in Brisbane, May 24 - 28.

## "15-year plan" needed

DETAILED predictions of the educational demand for secondary and tertiary education were hard to obtain and when data did exist it was seldom made public, the Dean of Education, Professor S. S. Dunn, told the ANZAAS conference in Brisbane.

Prof. Dunn gave as an example the controversy over the publishing of the education "Needs" survey made by the State education ministers.

(The survey claimed that in the next five years Australia would need an extra \$1400 million for education).

"The report of the Committee of Enquiry in Education in South Australia provides data for one state that should be publicly available for every State, and which should be up-graded every year and advanced one year," Prof. Dunn said.

"We need estimates made public of pupils, teachers and buildings up to 15 years ahead," he said.

"In addition to any departmental report on innovations, the community should have available an external report by experts on innovations being explored or worth exploring, as a partial evaluation of short-term planning by the department.

"The department should also prepare and publish, with the aid of experts, its assessment of individual and societal trends and needs, its plans to handle these, and cost estimates for the suggested programmes," Prof. Dunn said.

"No department has yet considered and published for the community its views on the implication of the advent of computers and of increasing leisure, to name but two important trends which must affect the education system, and then provided cost estimates for the likely changes.

"The Policy Research Institute at Syracuse had several people working in this area who were examining likely consequences for education of changes occurring in society and in industry. This would be a fruitful area for Commonwealth-state co-operation."

Prof. Dunn said that in the future society would examine more closely the allocation of resources to education. Was an Open University cheaper than a conventional one? Would computer assisted individual instruction replace teachers? Should the balance of professionals, semi-professionals and aides in education be changed?

The concepts of 'accountability' and 'performance contracting' were already operating in U.S.A. and the same questions would be asked in Australia, even if the same remedies were not adopted.

Prof. Dunn said: "Serious study in the field of educational administration is of relatively recent origin in Australia, and we probably have no more than 10 academics fully employed in teaching and research in the area.

"Some economists have shown some interest and more are becoming interested, but again it is unlikely that more than 10 could be found who are

working in the field of economics of education, and only a few of these would be working on information related to the evaluation of the total system," he said.

"When a system is using so much of our resources and crying out for more, we can be sure that society is going to expect evidence that its money is being spent to advantage.

## Teaching the handicapped

TEACHERS, psychologists, counsellors and parents would have to learn new roles if there were to be a concerted effort to programme a child's learning creatively, Professor Marie Neale told the conference.

"Educators must be involved in planning in-service courses and continuing education for the community," Professor Neale said.

Prof. Neale is Professor of Special Education at Monash and is chairman of the Child Study Centre.

"There is a wealth of knowledge that must now be channelled back into general education as we recognise that minor variations in development may impede the development of the normal child," she said.

In special education there was a need to rethink and plan anew for interdisciplinary facilities for no economy could support the current proliferation of facilities for the management of each diagnostic category of exceptionality.

At the same time there was a need for research into more effective ways of predicting "at risk" children and of devising ways of circumventing failure.

"The lessons learned from research in other countries must be understood in time to avoid costly replication in Australia and New Zealand, particularly for migrant and aboriginal children," Prof. Neale told the delegates.

It must be understood by the community that many solutions lie in improving socio-economic conditions "so that we do not find ourselves politically pressured into establishing ad hoc specialised services which may be quickly outdated."

### Socio-engineering

"The crippling effects of segregation are now being understood while the problem of integrating minority groups requires sensitive socio-engineering," she said.

"The simplistic view that all research leads to a meaningful solution might be avoided in education if teachers were familiar with the fact that only partial answers and hosts of questions ensue from laboratory research."

In her introduction to the paper Prof. Neale made a strong plea for an understanding of the motivations and ideas of modern youth.

She said: "A return to nature, idealism mixed with enjoyment of the senses and sensation, freedom from constraints, rebellion against traditional schooling and examinations, protests against discrimination, upsurge against established modes of authority, against racism and war - these are the standard deviations in behaviour of contemporary youth.

"But, behind the many forms of deviant behaviour which have perplexed and irritated those concerned with maintaining normal standards, there can be traced two recurrent themes, a vigorous support for human dignity and individuality, and a forthright opposition in institutions policies or theories which appear to stultify or

"For this reason we need to devote effort to developing useable indices even if they are rough ones.

"Gross national product is a useful, practical index despite the problems which arise in its compilation. Unless education develops satisfactory indices for evaluating its systems, we may have them evaluated and changed by the use of less satisfactory indices."

deprive individuals of their right to personal development.

"To a world that propounds philosophies concerning equality and liberty of the individual, and the sacredness of human life, youth has taken a compelling stand - one might say culture within a culture - against the hypocrisy of practices which have exalted materialism, militancy and impersonal detachment from concern for others.

"We are too closely bound up in the turbulence to assess its longterm impact on education, but the mood of expectation, that cultural needs might yet be reappraised and acted upon, has acted as a powerful catalyst for change in special education."

Prof. Neale told the delegates many of the prejudices surrounding the disabled child had been discarded by research evidence of children's adaptability in learning when social targets were specified and included in the academic curriculum.

"The task before us is to prepare specialists to work with children who exhibit specific or multiple handicaps," she said.

"The neurologically handicapped child, the child with learning disabilities, the slow learner, the crippled child, the cerebral palsied child, the emotionally disturbed child, and the gifted creative student, all require specialised programmes and techniques in order to achieve fulfilment from school life."

Prof. Neale closed her paper by saying: "Perhaps the youth who clamour for a greater degree of integrity in approaching the problems of our social scene may not be so idealistic or arrogant as we would suggest, but closer to the realities of the wastage of human potential. Let us not waste their talents and concern by offering them outmoded concepts of teaching and research in specialist fields."

## Deaths: Accidents rate fourth

Accidents were the fourth major cause of deaths in Australia each year, Dr. G. A. Ryan, a lecturer in the Department of Social and Preventive Medicine, told the ANZAAS conference.

The first three causes of death were heart disease, cancer and stroke.

"Nearly half the deaths due to accidental injury occur in those aged less than 30 years, making them doubly important since these lost years are the most productive years of life," Dr. Ryan said.

"Slightly more than half the deaths from accidents are due to the use of motor vehicles," he said.

Dr. Ryan told the delegates that in Victoria in 1968, there were 10,531 deaths from heart disease, 4597 from cancer, 3599 from strokes, and 1680 from accidents.

The potential years of life lost by cause of death were: Heart disease, 141,100;

## More people in the outback?

The problem of achieving and maintaining socially and economically viable communities in Australia's sparsely peopled arid zone was raised by Professor B. L. C. Johnson in his ANZAAS paper.

The levels of aspiration for the whole national community in terms of living standards, economic opportunities and "quality of life" were generally set by metropolitan centres, Prof. Johnson said.

"In an egalitarian, economically highly developed country, the State, if it is concerned in the public interest to prevent or minimise inequalities between remote rural and metropolitan areas, must plan, legislate and invest to make life in outback sufficiently attractive to counteract the metropolitan magnets," he said.

Prof. Johnson, who is Professor of Geography at Monash, will leave at the end of this term to take up appointment as the head of the geography department, School of General Studies, Australian National University, Canberra.

Prof. Johnson said a tentative solution to the problem lay in concentrating population into viable communities (target population not less than 10,000).

The families of the economically active would reside in areas surrounded by all the services now regarded as essential to our way of life, plus some secondary industry.

Light aircraft or air-buses would carry the members of the primary industrial workforce to their standing or mobile quarters on stations, mines, oil rigs, etc. up to 200 or 300 miles distant for tours of "outback" duties of a week or two, interspersed with periods of leave or town-based duty.

"We must be prepared for the possibility that our systems of social and political organization, including the patterns of settlement in rural areas, may also be subject to obsolescence," Prof. Johnson told the conference.

"In common with most nations enjoying a high standard of living, Australia is committed to the ideals of equality of social and economic opportunity for its people.

"As living standards in our larger cities improve (assisted by highly profitable industrial development) the disparity with rural areas tends to increase.

"If population is to be held in the more remote country areas, life there has to be made attractive enough - economically, socially and psychologically - to counteract the metropolitan magnets."

The "welfare state" of whatever ideology may not be able to afford either the depopulation of its countryside, nor the laissez-faire alternative of marked inequality between its rural and metropolitan populations, he said.

Government, whether Commonwealth or State, would have to assist more and more, both communities and individuals to use available technology in order to keep abreast of metropolitan standards of living in the widest sense.

cancer 81,000; accidents 55,800, and strokes, 44,700.

"A further measure of the ubiquity of accidental injury is found in the tabulation of bed-days occupied in Victorian hospitals in 1967 - accidents, poisonings and violence is the cause of the largest single group of bed-days in hospital occupancy," he said.

"In a survey of episodes of illness treated by general practitioners in 1962, accidents accounted for the second largest group, surpassed only by respiratory illnesses.

"Death and disability from accidents are therefore a common cause of suffering and economic loss to the community, on a par with other diseases of the human condition - yet there is no national accident foundation encouraging research in the subject with hopes of improving treatment of preventive measures," Dr. Ryan said.

# Come and see for yourself . . .

A university today, by its very nature, is a restless place, an endlessly searching, questioning—occasionally turbulent—place. It is not, can never be, remote and inaccessible.

Yet . . . there are times when even those who work within a university cannot see the effects of their work on the community at large (until they read some of the more lurid accounts in the press).

On the other hand, the general public often knows little of what actually does go on in universities—again, apart from what they read in the papers or see on TV.

In a significant way, then, Open Day is an exercise in understanding—a chance for us to show our paces and gauge public reaction; a chance for the public (who, one way or another, have invested more than \$140 million in Monash) to see how that money is spent . . . to see for themselves what a university is all about, free from distortion or wrongful emphasis.

Monash is a very young university. It is just 10 years since it received its first students. Today it is, by any standard, a very big and complex institution.

It has a student population of 11,034; a staff (academic, administrative and general) of some 2,500; It spreads over 250 acres of land. There are seven faculties—Arts, Economics and Politics, Education, Engineering, Law, Medicine and Science—comprising more than 50 departments. Then there are all the ancillary departments and services: the libraries, Robert Blackwood Hall (opened just a few weeks ago), the Alexander Theatre, the computer centre, audio-visual aids, health services, student union, halls of residence . . .

Today, you—as a visitor—may not have time to see all that you would like. But we hope that what you do see you will find exciting, challenging, stimulating—and that you will come back again.

Welcome to Monash!

## Ten years of rapid growth

Continued from page 1

achieve academic excellence we were under pressure to do so very quickly. The reason for this was that the number of high school students desiring tertiary education was rising very rapidly - far too rapidly for Melbourne University to keep pace with even if it had wanted to grow any more, which it certainly didn't.

"The Murray Committee thought that it would take about six years, from 1958, to get the University going but Sir Robert thought differently and we all adopted his target, March 1961, as the one we had to hit: and we did hit it.

"We also determined to keep on growing fast enough to keep up with student demand and we did, in fact, double in size each year for four or five years and then increased by more than a thousand students a year throughout our first decade.

"Over this period our average rate of staff appointments was one every 2.8 days.

### Was it worth it?

"This was an immense effort, achieved by the devotion and hard work of a rapidly growing band of academics and administrators. Today, when we are celebrating the culmination of a decade of struggle and achievement, one can well ask whether it was worth it, or whether we might just as well have settled for an easier life and a more sensible growth rate.

"I must say that when I hear the snarling insults of our disaffected minority, accusing us of being mere pawns of the capitalist-imperialist conspiracy, and of

purveying irrelevant and outdated orthodoxy instead of the shining truth of the New Left, I wonder why we struggled as we did. Was it only so that these characters should not miss the opportunity of a university education?

"When I spoke of the academic excellence which we have striven to achieve I was not thinking exclusively, or even mainly, of the distinguished research and writing of many of our academics although it is by the dissemination of this work through the world of scholarship that we get known.

"This reputation is very important, for many reasons; one is that our brightest students, seeking overseas scholarships and appointments, find it just that much easier when they are supported by a professor with an international reputation and, too, the better the reputation of a university the more easily can it recruit first class staff.

"But I want now to emphasise especially the care and thought that has gone into developing the academic programmes so that our students could have the benefit of the latest thinking on curriculum and on pedagogical technique. I have, on occasion, worried lest we were being too orthodox, too solidly based on pre-requisite achievement, not ready enough to try out something new that shows promise of offering a fresh approach.

"But when I actually argue these matters with my senior colleagues and hear about the immense care that is taken with the planning of the courses, with the supervision of the teaching, and with the assessment of tests and examinations, I have to agree that we really do give enormous attention to our

responsibilities as teachers. Those who sneer at the universities for neglecting their teaching at the expense of their research have not examined what goes on here."

Dr. Matheson said that many thoughtful people now considered that a university had a responsibility to ensure that none of its graduates was turned loose on the world without being able to give some sort of an answer to the question "Why?" as well as being competent to explain how.

"I must at this point insist that the value that students get out of their time here certainly does not reside exclusively in the formal courses which they are required to attend," he said.

"If the Monash environment falls short of being ideal, it is at least well-adapted for self-education on almost every conceivable topic. Any fair assessment of the education which is obtainable here must give some credit for the side-effects, as well as for the primary therapy.

"There are two main reasons why great care is taken not to bias formal courses in a particular direction, however enlightened that direction may seem to be.

"The first is that, although this view is often challenged by young people impatient for reform, it really is important that university teaching should be impartial and objective, accurate as to fact and penetrating in analysis.

"The second reason is that most of the important questions that face mankind are technically difficult to solve, and it therefore is our duty to produce graduates who are as technically competent as time will permit; and by technically competent I mean, for example, not only good chemical engineers who will know how to protect our environment but good economists, lawyers, political scientists and so on, who can bring good engineering into reality by good government."

### Nearing the target

Looking to the future, the Vice-Chancellor said that Monash was now approaching its target size of 12,000 undergraduates, and saw no need for any new faculties.

"The most important new development which we hope to bring about is to follow the very successful example of the Centre of South-East Asian Studies, which has been running for some years, and establish a series of co-operative centres which would link departments and faculties for the study of topics in which they have a common interest.

"They include such areas as astronomical sciences, neurosciences, materials science, environmental studies, business research and legal research, and their function would be to foster research and advanced study, and especially to institute courses for graduates and others who wish to up-date old knowledge and acquire new. They would play a central part in the programme of continuing education which I hope to see developing strongly in our next phase."

## STUDENTS TOP RED CROSS APPEAL

The biggest single cheque handed to Red Cross for the Pakistan refugee appeal has come from Monash students - \$3500.

A Red Cross spokesman told the Reporter that Victorian public donations had reached more than \$30,000 - more than half the total Australian public contribution channelled through Red Cross.

The students collected the money during a week-long appeal. Main collection point was in the Union foyer where the major highlight was the handing over of \$1000 in \$20 notes by a young man who left the building before he could be identified.



WILLIAM DARGIE's portrait of Sir Robert Blackwood occupies a prominent position in the great hall's western foyer. Here, the Governor, Sir Rohan Delacombe, discusses the painting with, from left, the Chancellor, Sir Douglas Menzies, Sir Robert Blackwood, and the Vice-Chancellor, Dr J. A. L. Matheson.



THE COMPTROLLER, Mr. F. H. Johnson, bearing the Mace, leads the academic procession from Robert Blackwood Hall at the end of the opening ceremony. More than 1200 people attended the opening.



THE JUNE 19 Robert Blackwood Hall opening: Refreshments were provided after the 80-minute ceremony. Above, the hall's architect, Sir Roy Grounds (left), talks with the Chancellor, Sir Douglas Menzies, and, at right, a part of the crowd in the hall foyer beneath the Leonard French stained-glass window.

## CHAMPERS AND SMILES

John's father is a doctor. A successful one at that. He urged, almost forced John to become a doctor, too. But John wanted to be an architect, and by his results in first year medicine he should have studied architecture. A fictitious case? Not really—one of the greatest problems facing teenagers is the choice of a career and the transition into tertiary education. Mr. R. R. Belshaw, Adviser to Prospective Students at Monash, has had years of experience in student guidance, and here talks about the problems at the end of secondary school and



This guide is based on an article written for "Careers Victoria", a publication of the Appointments Board, University of Melbourne.

# THE PERIOD OF TRANSITION

Leaving school and going to permanent employment or proceeding to further training in some full-time advanced course inevitably brings problems of transition for secondary school students.

Interviews with many prospective students provide evidence, I believe, that too many students are unnecessarily fearful of the progression to higher education. It can be a normal progression.

Success in a venture requires a knowledge of yourself and a good appraisal of the difficulties ahead. Students throughout their school life have already participated in a continual process of transition and adjustment.

However, one would be foolish to disregard the unfortunate tensions which our system has developed in the final years of secondary school and particularly in Sixth Form where the Higher School Certificate has come to assume such alarming importance.

The teen-age years with their personal adjustment to approaching adulthood, and individual emotional development, have their own transition significance without the additional strain of a critical academic assessment certificate.

We know each person develops self-confidence and emotional understanding and control at different rates. Everybody is not ready for the H.S.C. examinations at the same age. Yet the school system assumes that students will face up to the demands of these assessment tests at the Sixth Form level.

The H.S.C. is not just a qualification. The subject marks at present are used for selection into available places in advanced courses.

Once a student has gained entry into a course of advanced study he, or she, has to reach only the minimum pass standard to be qualified to continue on course. Having gained selection into a course there is good reason for expecting conscientious students to succeed.

### Cause for concern

In many ways the final year at secondary school has more cause for concern than the study programme at tertiary level.

Increasing numbers of students are remaining at school and attempting the H.S.C. Many of them are the first in their family to reach this level of education. Almost certainly many of them have not the personal qualities nor the necessary scholastic ability to expect success in

tertiary courses. Some who have the necessary "quality" are immature and not yet ready for the demands of advanced study courses.

Our school programmes tend to be directed towards preparation for entry into tertiary courses. We need to re-think our educational aims. There is little wisdom in confusing our judgment of a person's "quality" with our assessment of his scholastic talents. A good person is not necessarily a gifted scholar.

In our present system many secondary school students will fail to reach the standards set for entry into advanced courses. To regard all these students as failures is unkind and unwise.

A student who has worked conscientiously may have made commendable academic progress, and may be developing towards worthy citizenship and still not achieve a place in a university or an advanced college.

Skilful teaching and arduous study may enable some students to gain selection into courses for which they are not fitted. I suggest, therefore, that when we consider the problems of transition into advanced courses we should remember that too many students proceed to tertiary study before they are adequately fitted to do so.

The process of successful transition commences before electing to enter a course. Experienced teachers are usually able to assist a student to discover if he, or she, has the necessary skills and maturity likely to ensure success.

With so much emphasis being placed on advanced training in the modern world one must expect scholars, and their parents, to be ambitious. Remembering the exacting standards of even the minimum pass that gives a higher qualification we must surely expect some students not to succeed.

For some, having tried unsuccessfully can be a worthwhile experience; for others, the failure to qualify can be a serious disappointment. Too much emphasis cannot be placed on the wisest possible choice of an attainable objective.

### Preparing for hazards

Being wise after a calamity is relatively easy. How many senior students seek out adequately from the information available an understanding of their probable future difficulties? One could argue perhaps that too little information is provided, but the number of student services is certainly being

continually increased. Accept the invitation to seek assistance.

One of the main hazards in a course of advanced training is that students are expected to do much more for themselves. Those who have not been adequately trained at school and at home to develop habits of self-reliance and self-help are seriously handicapped as tertiary scholars.

In places of higher learning the student must take increasing responsibility for decisions about his training. He will not be subject to continual supervision of the use of his "free" time. He will be set demanding programmes. Assistance will be available, but usually the student must seek it. Continually he must plan his use of time and learn to establish priorities.

In universities and advanced colleges there is an interesting range of extra-curriculum activities. How much time to devote to such pursuits, particularly in the vital first year, is an important area of choice.

Most places of higher learning are large institutions often with many thousands of students and instead of a class of 20, or 30 (or was it 40?) the new student could find himself in a lecture with more than one hundred total strangers, and he may yearn for his well-known, former teachers.

The student who must live away from home is likely to have additional transition problems of living expenses, loneliness, and perhaps the need to prepare his own meals. He could have the good fortune to live in a residential college or one of the halls of residence but has to adjust to the communal problems in this strange new home.

### Kinds of scholars

I have said there are many differences between individual scholars. We can class the individuals into three groups.

First there is that happy band who take difficulties easily in their stride and tend to make the rest of us develop inferiority complexes. They read efficiently, they take useful notes of lectures, they readily understand new concepts and complex arguments, they have penetrating comments and questions ready for tutorials, they have time for frequent coffee breaks of leisurely discussion and debate, they have essays and assignments completed on time, they enjoy delving into unusual aspects of each subject, and they pass their examinations at the first attempt in spite of playing tennis or chess

all of the previous afternoon. Would you believe there are such students? Perhaps they too have their peculiar adjustment problems though they frequently conceal them well.

Secondly there are those who seem to lead a more harassed life. These lesser mortals frequently show signs of anxiety and they experience the results of badly planned allotments of time and various other misjudgments forgivable in those who undertake difficult programmes. By timely emergency measures they usually manage to cope though their pass rate is not 100 per cent. They learn from their mistakes. Their fears and tensions usually result in a constructive and successful effort.

Finally there are those similar to the second group but with one important difference. By their lack of skill and foresight they get into difficulties and have cause for worry and fear of failure, but their worrying is not constructive. They allow their problems and worries to increase and fail to take the necessary action to cope with their tasks. They usually know where they have gone wrong and can tell us what they should do. They spend more and more time worrying and less time acting constructively. To escape from their dilemma they begin to seek excuses and often busy themselves with tasks that have little to contribute to the goals they believe they wish to achieve. They often become accustomed to their lack of success. At best they appear to keep trying.

If you are a student contemplating an attempt at some difficult course of advanced study I suggest that you should seriously try to describe accurately the kind of scholar you believe you are and the kind of student you believe you could become, and would like to become. The more accurately you know yourself the greater your chance of choosing a suitable course and succeeding in it.

Information to assist students in planning a suitable transition from school to a university course can be obtained by writing to the Appointments Board at the University of Melbourne or the Careers and Appointments Office at La Trobe or Monash. An interview can be arranged. Similar advisory services are available from the various colleges of advanced education. Youth officers in the district offices of the Commonwealth Employment Service and in the new Career Reference Centre provide a further information source.

# Monash University Open Day '71

July 10, 11 a.m. - 5 p.m.



**WELCOME TO MONASH UNIVERSITY'S FOURTH OPEN DAY . . .** In these pages, Monash Reporter attempts to show just a few of the things you'll see as you move around the University. We cannot hope to cover all the attractions — but if there's anything you wish to know, you'll find many willing people to help you. The full guide appears on pages 6-7.

LATEST aerial view of the campus dramatically illustrates Monash's growth from open countryside 12 years ago to a vital vigorous centre of learning, with an average daily population of more than 13,000 people. (Ritter-Jeppesen photo.)



On display in the Department of Chemical Engineering is some equipment which should be of interest to all those who drink beer or malted milk or who eat any of the many food products containing malt extract.

The equipment is used for research on the development of a continuous process for production of malt extract. This research project is being conducted by Henry Flucinski for his honours thesis in Chemical Engineering Science.

The picture shows Liz Manton, 20, a third-year student in the Department of Chemical Engineering, filling the feed hopper with a fresh supply of crushed malt.

The screw, visible because the tube in which it turns is of transparent material, conveys the crushed malt downwards against an upward flow of warm water used for the extraction. Just below the feed hopper is a filter section from which the product emerges.

**ONE of the most popular events at Monash last month — and one which Open Day visitors will see — was the first full-scale performance by the Monash Modern Dance Group.**

More than 1500 people filled the Alexander Theatre over the three days to see the 60-member group perform. Nearly all the cast are Monash students.

The show, called "Then and Now", will be repeated on Open Day in the Alexander Theatre.

The picture below, taken by student Julian Burnside, is from "Then and Now". The show has been produced by Mrs Shirley McKechnie, a Beaumaris housewife who is studying full-time at Monash.

Shirley is the artistic director of the Australian Contemporary Dance Theatre and she is a professional teacher. She takes the Monash dance group for classes at lunchtime on Tuesday and Friday.

The other choreographers for "Then and Now", Janette Liddell, Glenda Lum and Antonio Rodriguez, also take two classes a week at Monash in various dance forms -

primitive, jazz, Afro-Cuban and contemporary.

Linda Streat, a third-year science student and one of the main organisers for the dance group, says there are 160 student members making it one of the largest and most active at Monash.

She says there is a need for more males - only 10 per cent of the membership is male.

"Although the group was formed in 1967 we have really only increased our membership in the last year and "Then and Now" is our first main public appearance," Linda said. "We hope to stage public evening performances in the future."

Both Linda and Shirley would like to see a resident dance theatre at Monash.

Considering only 75 per cent of the students in the group have danced before they believe the standard and potential is pretty high. See for yourself on Open Day.



More than 150 students each term take part in pottery and weaving classes organised by the Clubs and Societies Office.

On Open Day, demonstrations of pottery and weaving will be held near the Grill Room on the ground floor of the Union.

About 140 students take pottery classes each term and about 20 do weaving. The demonstration will be on between 11 a.m. and 4 p.m.

## GENERAL INFORMATION

**FIRST AID** is available at the Health Service, 1st Floor, Medical Building (No. 12 on map) 1.30-4.30 p.m., or in the Sports Medicine Centre (1 on map) 2-5 p.m.

**ENQUIRY DESK.** The Union reception office, eastern end of the Union on the ground floor, will be open for general information between 11 a.m. and 5 p.m. (9 on map).

**LOST PROPERTY** centre is the Union reception desk. Enquiries after Open Day may be made by phoning 544-0811, ext. 3141.

**PUBLIC TELEPHONES** are mainly located in the Union (ground floor, eastern end) and in the Humanities Building (basement) (9 and 10 on map).

**CONVENIENCES** are mainly in the Union (both floors) and the Humanities Building (basement) (9 and 10).

**CATERING** is provided in three areas in the Union. Light refreshments: Coffee Lounge, Grill Room and Cellar Room, all 11-5.30; Lunch: Grill Room, 12-2 (9).

**CAREERS AND COURSES INFORMATION CENTRE** is in the Union, eastern end, upper floor (9).

**THE UNION THEATRE** will have cartoons and shorts running continuously throughout the day for parents who want to leave their children in a safe place while they tour the university. (9 on map).

A **BARBECUE LUNCH** will be available in the foyer of the Engineering Lecture Theatre from 12 noon. Organised by Monash Engineering Students' Society.

Comments and suggestions about Open Day will be welcome and should be sent to: Mr. R. R. Belshaw, Careers and Appointments Office, Monash University, Clayton, 3168.

## ACTIVITIES, DISPLAYS

Numbers in brackets refer to map key.

### ACADEMIC DRESS

Display on mezzanine floor, Robert Blackwood Hall, 11.30-3.30. (No. 2 on map). Includes gowns worn at graduations and other official ceremonies, the University mace and relics of Sir John Monash.

### ALEXANDER THEATRE

Tours with theatre manager, Mr. P. A'Vard at 11.15 a.m., 12.15 p.m. Performances by Monash Modern Dance Group at 1, 2.30, 4. Tickets for Richard II available at box office. (6 on map).

### ANATOMY

Anatomy Museum, open all day in Medicine (12).

### ANTHROPOLOGY AND SOCIOLOGY

Primitive Art Museum, 10th floor, Humanities Building, open 11-5. Staff member available in Room 1015 to meet people. Films at 11, 1 and 3 in lecture theatre H2 (Humanities—10). Titles include "Brotherhood of Man", "North Indian Village" and "The Bushman".

### ART DISPLAY

Monash has built up a substantial collection of art works over the last ten years and these are normally displayed throughout the University. A selection will be exhibited in the Conference Room, Union (9).

Other interesting pieces that can be seen on Open Day are: John Perceval, Artist's Studio (1st Floor Law, 11); Arthur Boyd, Landscape (2nd Floor, Law); Fred Williams, Landscape (Main Library 4); Michael Johnson, Rough (Main Library); Clifton Pugh, Bats (Exterior Zoology Lecture Theatre, 19); John Perceval, Ceramic Sculptures (Hargrave Library, 26); Burnell Collection of Etchings, (Engineering, Science and University Offices).

### AUDIO VISUAL AIDS

Near medicine (12). Colour TV van open for inspection, some televising from AVA studios, video tape room on view.

### BIOCHEMISTRY

First floor, Biochemistry Teaching Laboratory opposite Bio-Medical Library (13). The display will cover: The Brain and Memory, Muscular Dystrophy and Neural Degeneration, Diabetes, Fermentation and Brewing, Certilage and Arthritis.

### BOOKSHOP

Open 11-5, Union (9 on map).

### BOTANY

Ground Floor, Biology Building (16 on map, enter by north door). Display by staff and students of research and teaching activities and of hot-house plants, (e.g. field work in Wyperfeld Park; Salt marshes of Westernport; plant survey of the State; tree ferns of the Dandenongs; light and electron microscopy).

### CAREERS AND COURSES INFORMATION CENTRE

Eastern end, upper floor, Union (9). Prospective students and their parents are welcome to discuss problems about courses and graduate careers with the staff from 11 till 5. During the year, including most school holidays, a similar guidance service is available by appointment for prospective students.

### CIVIL ENGINEERING

Engineering Building 5 (see 31 on map). The department undertakes teaching and research in stress analysis, theory of structures, soil mechanics, surveying, water resources and transport engineering. On display will be various equipment and research projects by staff and students including: Fatigue Testing of Steel Girder, Westgate Bridge Test Panels, Parabolic Concrete Structure, Post tensioned concrete beam under test, Small Laboratory Computer, 500 Ton Compression Testing Machine, Soil Mechanics Testing Equipment, X-Ray Equipment.

### CHEMICAL ENGINEERING

Laboratory area open for inspection all day, engineering building 5 (31). Equipment shows work of chemical engineers in minerals processing, food processing and biological waste treatment, including the treatment of dairy whey. Films will be shown in room G 17 of building 5 from 11-12.30 and 1.30-5. An analog computer will be running in building 4. (30).

### CHEMISTRY

Films and lecture demonstrations in Lecture Theatre S6 (21).

Display of research equipment and techniques, first year laboratory (23). Includes: microwave spectrometry, infrared spectrometry, atomic absorption spectrometry, automatic titration apparatus, vapour phase chromatograph, x-ray diffraction and crystal and molecular structures, glassblowing demonstration, vacuum line and dry box handling, techniques and preparative chemistry techniques.

Demonstration by 1st, 2nd and 3rd year students of some typical experiments normally carried out during their practical chemistry sessions. Audio-visual aids used in 1st year practical classes also on display.

### CLUBS AND SOCIETIES

Many of the 81 student hobby and cultural societies will have displays or other activities in the Union. See Union notice board for details. Weaving and pottery in rooms west of grill room, Union, 11-4 p.m.

### COMPUTER CENTRE

The Centre (32) provides computing facilities for all university departments plus programming courses at both elementary and advanced levels.

Two computing systems are currently available, a Control Data 3200 computer and a Burroughs B5500 system. The replacement cost of each machine is about one million dollars.

The Computers will be on view throughout the day, plus displays and demonstrations of various equipment items and Computer Centre projects. The displays will be "manned" by students from the Department of Information Science who are studying computer technology.

### ECONOMICS

Talks in H3 (Humanities, 10). 2.30: Geoffrey Spencely, "Economics in History". 3.30: Dr. I. D. S. Ward, "The Socialist Challenge". 2-5: Combined information and coffee centre with politics, staff room 374 (Humanities).

### ELECTRICAL ENGINEERING

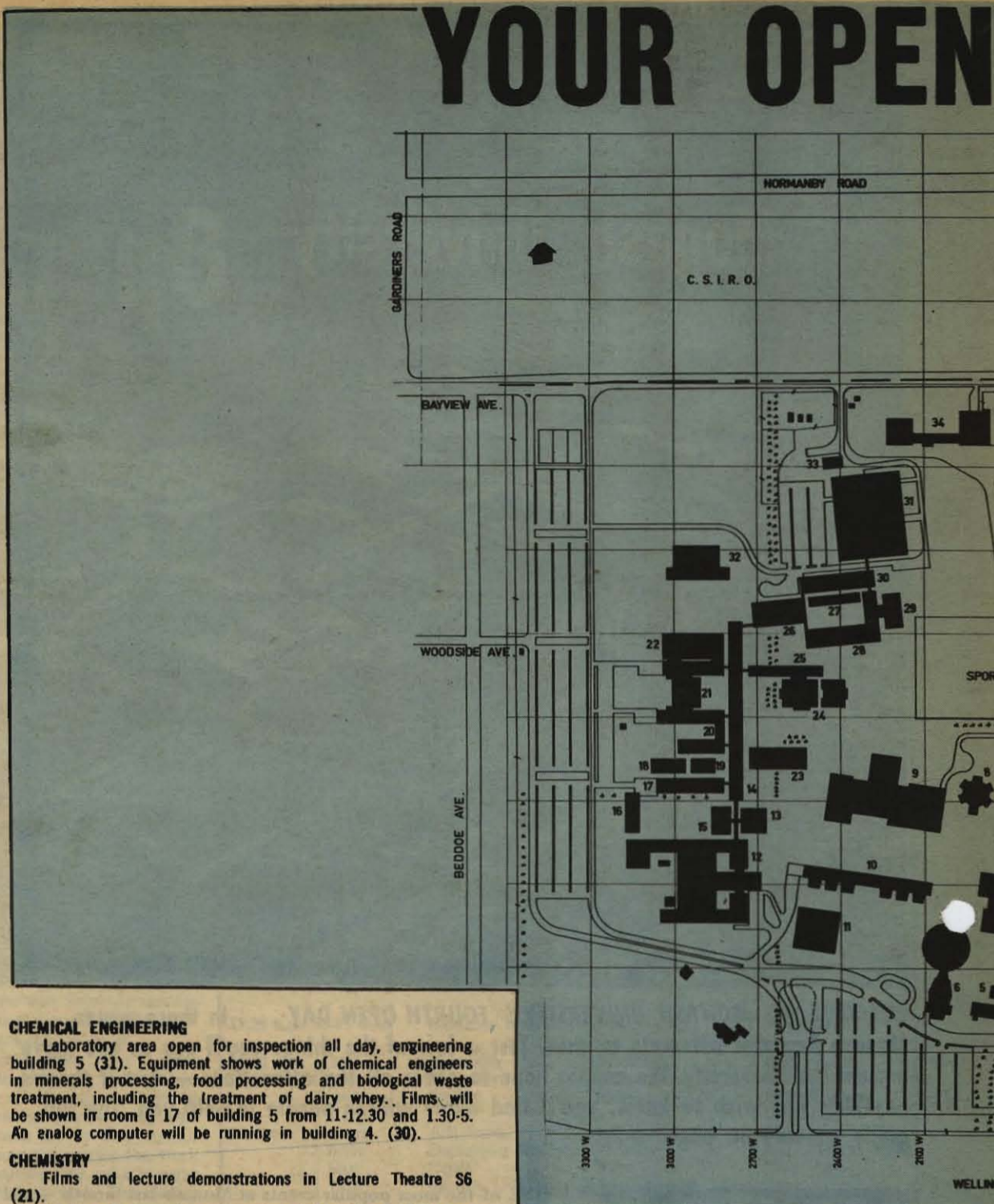
Displays in Engineering building 4 (30 on map).

(1) **Power Laboratory:** High voltage and heavy current systems, network analysers, novel electrical machines and electrical protection systems. Ground floor.

(2) **Control Laboratory:** A position servomechanism in connection with satellite receiving aerials, also an analog computer system and a logic tutor; Rooms 104-107, first floor.

(3) **Microwave Laboratory:** Includes a microwave security device, a microwave communication system and examples of microwave propagation. Rooms 104-107.

# YOUR OPEN



(4) **Second Year Laboratory:** Second year experiments including phasor display and electromagnetic induction. Rooms 104-107.  
(5) **Electronics and Communications Laboratory:** Includes instruments for the blind, a solar-powered audio system, an electronic organ, electronic telephone and undergraduate experiments. Room 215, 2nd floor.

### EDUCATION

Mr. P. Banbrook, Reception Desk, can introduce you to one of our staff and student guides. We suggest you see:

Ground Floor: G02 Lecture Room, G03 Seminar Room, G07 The Dean's Conference Room, G33 and G35 Social Interaction Laboratory, G41 The Science Laboratory, G39 — continuous showing of educational films — 11-4.30 p.m. Enter and leave as you will.

Child Study Centre: Special rooms and kindergarten, 11-1 p.m. Faculty members will be in attendance with people who have volunteered for the demonstrations.

Kindergarten: In attendance — the director, Miss Lewis, teachers, Mrs. Plummer and Mrs. Biddington, Chairman of Child Study Centre, Professor Marie Neale, and Secretary of Kindergarten, Mrs. Catchlove. They will discuss details concerning the functions of the Centre.

First Floor: 105 a typical Seminar Room, 101 T.V. Studio, some equipment in operation. The Curriculum Laboratory is open — with sets of school texts and teaching materials, and other teaching resources.

You are welcome to visit other floors where Seminar rooms and a number of Staff Studies will be open for inspection.

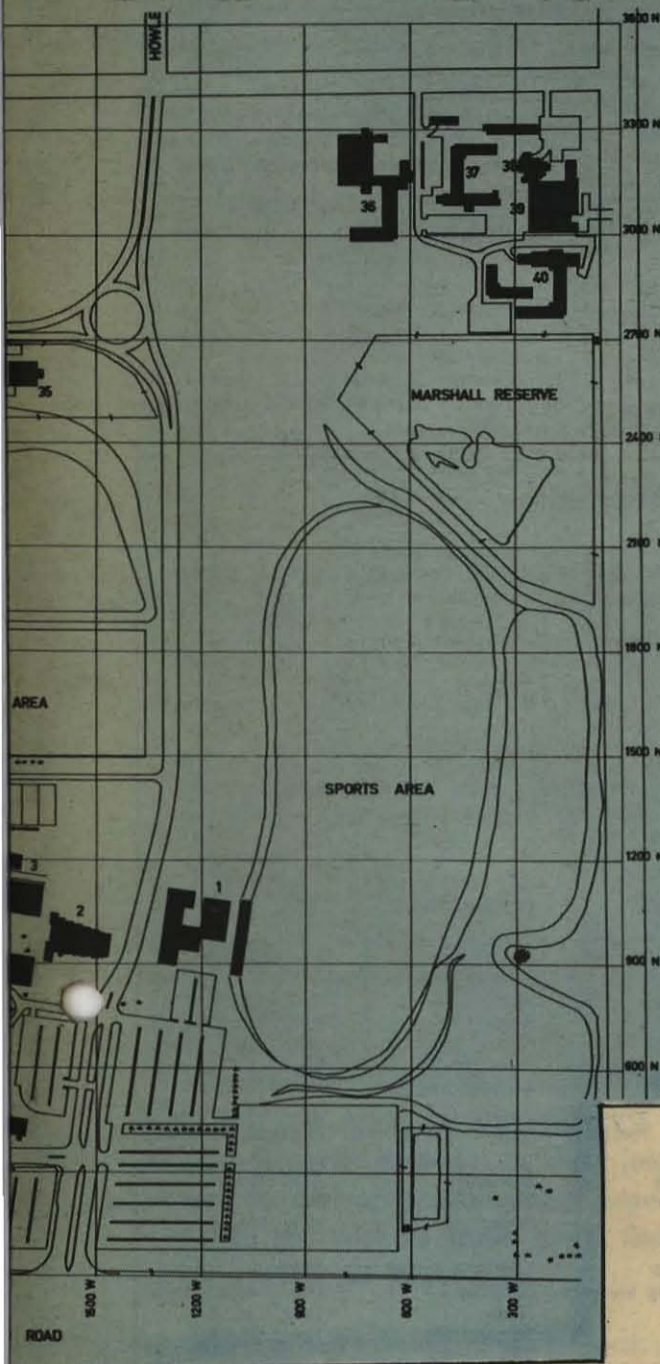
### ENGINEERING SERVICES

Purpose of the department is to construct and maintain research and teaching equipment in Engineering Faculty. (31 on map). Display includes operation of the following machine tools: Cylindrical and Surface grinder; Lathes — Demonstrating turning with copying attachment for milling shaping and drilling; Electric and Oxy Welding. Profile flame cutting.

### FRENCH

Demonstration of use of language laboratory, lab. No. 4, third floor, Humanities (10) all day. Documentary films on France (The Rhone Valley, La Savoie, Vincent van Gogh), laboratory 1, third floor, Humanities (10), at 11, 12, 1, 2, 3.

# DAY GUIDE



## KEY TO PLAN

- 1 SPORTS BUILDINGS
- 2 ROBERT BLACKWOOD HALL
- 3 UNIVERSITY OFFICES
- 4 MAIN LIBRARY
- 5 EDUCATION
- 6 ALEXANDER THEATRE
- 7 ROTUNDA
- 8 RELIGIOUS CENTRE
- 9 UNION
- 10 HUMANITIES
- 11 LAW
- 12 MEDICINE
- 13 BIO-MEDICAL LIBRARY
- 14 CENTRAL SCIENCE BLOCK
- 15 BIO-CHEMISTRY
- 16 BIOLOGY
- 17 SENIOR ZOOLOGY
- 18 FIRST YEAR BIOLOGY LABORATORY
- 19 ZOOLOGY LECTURE THEATRES
- 20 SENIOR CHEMISTRY
- 21 WESTERN SCIENCE LECTURE THEATRES
- 22 SENIOR PHYSICS
- 23 FIRST YEAR CHEMISTRY
- 24 EASTERN SCIENCE LECTURE THEATRES
- 25 FIRST YEAR PHYSICS
- 26 HARGRAVE LIBRARY
- 27 ENGINEERING BUILDING 3
- 28 ENGINEERING BUILDINGS 1,2
- 29 ENGINEERING LECTURE THEATRES
- 30 ENGINEERING BUILDING 4
- 31 ENGINEERING BUILDING 5
- 32 MATHEMATICS
- 33 BOILERHOUSE
- 34 MAINTENANCE BUILDING AND CENTRAL STORE
- 35 ANIMAL HOUSE
- 36 ROBERTS HALL
- 37 FARRER HALL
- 38 HOWITT HALL
- 39 CENTRAL BUILDING
- 40 DEAKIN HALL

## MATERIALS ENGINEERING

In Engineering Building 5 (31 on map), first floor. The department is concerned with the relationship between the structure and behaviour of materials of engineering interest, and covers the fields of metals, ceramics, plastics and rubbers. Undergraduate and research laboratories will be on view illustrating various aspects of the study of materials. Working exhibits will include: Transmission electron microscopy of alloys; Optical microscopy of metals; X-ray diffraction equipment; Mechanical testing of materials; Levitation melting by high frequency induction; High temperature (10,000°C) high frequency plasma apparatus.

## MECHANICAL ENGINEERING

Engineering Building 5 (31), open all day. Involves operation of test rigs showing research and teaching in fluid mechanics, acoustics, applied mechanics, thermodynamics and heat transfer. Fluid mechanics: small and large wind tunnels, tests on water flow. Production Science: high speed lathe, a test rig using a Bofors gun for a study of machining processes at extremely high speed cutting rates (up to 8000 ft. per sec.) Acoustics: anechoic chamber measures behaviour of noise sources, e.g. loudspeakers, machines. Heat transfer: the performance of a relatively new type of heat exchanger (a rotary regenerator) is being studied, using a full scale model. Engineering dynamics: includes machines for producing vibrating forces, for balancing rotors, for studying the whirling of shafts, etc. Metrology laboratory: wide range of precision measuring equipment which examines microscopic deviations from perfection. Fluid power system: the complex behaviours of both hydraulic and pneumatic control and power systems are displayed in a series of experimental rigs.

## MUSIC

3.30-4.30: Monash Chamber Orchestra, Religious Centre (8).

## NORTH-EAST HALLS

Residential colleges open for inspection all day. N.E. corner of University grounds. (36-40 on map).

## PHILOSOPHY

A display of historically important and influential philosophical works in the department's library.

Short 5-10 minute talks on philosophy and on the teaching of philosophy at Monash, followed by a question and discussion time. These will take place at 11.30, 2 and 3.30 in the library.

The Department of Philosophy is on the ninth floor, West wing, Humanities (10). Tutorial, lecture, staff and seminar rooms will be open to visitors' inspection.

## PSYCHOLOGY

Displays and demonstrations of research. Floors 4, 5 and 6. Biology Bldg. (16 on map).

## PHYSIOLOGY

- Multidisciplinary Lab., Medical School (12).
1. Measurement of human acuity of hearing, and tests of colour blindness.
  2. Conducted tours of the electron microscope.
  3. A human visiomotor co-ordination task.
  4. Measurement of the speed at which a nerve conducts messages.
  5. Recording from sensory nerves of the frog skin.
  6. Recording from single cells in the snail ganglion.
  7. Smooth muscle of the rabbit's intestine.
  8. Recording human brain waves: The electroencephalogram (EEG).
  9. The isolated recycling toad heart.
  10. Human muscle and nerve activity.
  11. Tests of human respiratory function.
- Videotape Demonstrations: Lecture Theatre M3, Medical School (12). The isolated stretch receptor of the Yabbie. Human Tendon reflexes. Control of movements of the human hand. Session begins: 11.30, 2, 3.30.

## PHYSICS (All 11-5)

1st Year Teaching Laboratory in 1st Year Physics Building, Lab. 3, Ground Floor (25). Demonstration of Equipment: Ripple Tanks, Microwave Apparatus, Diffraction Experiments, Torsional Apparatus, Optical Experiments, Stroboscopes.

2nd Year Teaching Laboratories, Senior Physics Building, Lab. 2 2nd Floor, (22). Equipment: Velocity of Sound Equipment, Geiger Counters, Relaxation Oscillator, Determination e/m using Magnetic Effect, Scintillation Counters, Cloud Chamber.

3rd Year Teaching Laboratories, Central Science Building, Lab. 1 Ground Floor, (14). Equipment: Cosmic Ray Telescope, Nuclear Magnetic Resonance, Low-field Electron Spin Resonance, Bitter Patterns.

Laboratory Workshops, Senior Physics Building, Ground Floor and 1st Floor (22). Equipment: Machine Tools, Electronic Equipment.

Laser Laboratory, Senior Physics Building, Ground Floor (22). Demonstration of Lasers on research projects.

Electron Microscopy, Senior Physics Building, Ground Floor (22). Demonstrations on J.E.O.L. Electron Microscope.

Photographic Laboratory, Senior Physics Building, 1st Floor (22). Demonstration of: Variable intensity photo-flash unit, Monochromatic and polarising macro-photographic system, Automatic aerated print wash, Printed circuit production.

Lecture Theatre S/5, Adjoins Senior Physics Building, Ground Floor (22). Demonstration of: Linear Air Trough, Kinetic Theory Model, Other demonstration equipment.

Research Laboratories, Senior Physics Building, Ground Floor (22). Selected research laboratories will be operating under normal conditions including: Low Temperature Research, The Mossbauer Effect, Electron Spin Resonance.

## POLITICS

Debate: "Revolution is more than a tactic, it's a way of life," 2-5, H4 (Humanities lecture theatre, 10 on map). Information bureau with economics, 3rd floor staff room, 2-5 Humanities (10).

## RELIGIOUS CENTRE

There are two chapels, with stained glass windows by Les Kossatz and Leonard French. The building is used by students and staff, without denominational restrictions. The centre is open for inspection from 11-5.

ROBERT BLACKWOOD HALL, open 11.30-3.30. (2 on map).

## RUSSIAN

Film: "A Journey across Russia", colour, in English, 20 minutes, in Language Laboratory No. 1, 3rd Floor, Humanities (10). Times: 11.30, 12.30, 1.30, 2.30, 3.30.

Exhibition: "Development of Russia", Foyer, 3rd Floor, Humanities (10). National Arts & Crafts Exhibition: Russian Seminar Room, Room 310, Humanities (10).

## SPANISH

An exhibition of books on Spain and Latin America, Room 111, First Floor, Humanities (10). All day.

## SPORTING EVENTS

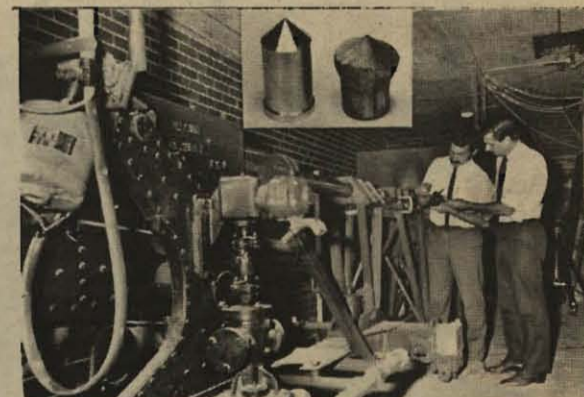
Baseball, hockey and football matches, main sports area commencing 2.15, behind building 1 on map.

Karate and fencing displays in the forum, if the weather permits, otherwise in the Sports Centre at times to be posted. Aikido self-defence training sessions, 2-5 p.m.. Small gym, Sports Centre.

## ZOOLOGY

Open all day, (17 on map). Fossil fish, 350 million years old, found recently 100 miles north-east of Monash. Displays on hog deer, ants, Cape Barren geese, marsupial rats, bandicoots and fire ecology.

Student group, ERIC (Environmental Research and Information Centre) will hold display on Westernport Bay, Union Foyer (9), and Zoology (17).



MONASH has its own cannon—a Bofors gun used by the Mechanical Engineering department to test metal cutting action. The inset shows results of tests.

## GERMAN

"German in Australia", Book display—Display on contemporary German language, Room 203, Humanities (10).

Short Films: Dresden, Ulm, Die Kuh, Duisburg, Deutschland-spiegel, 11.00-12.30; 2.30-4.00 R5 (7).

Language Laboratory demonstration: Laboratory 2, 3rd floor, Humanities (10), 12-1 p.m.

## HEALTH SERVICE

1st floor, medicine (12) open for inspection 1.30-4.30, Dr. I. C. MacDonald in attendance.

## LANGUAGE SERVICES

Language Laboratories are a feature of the teaching of both classical and modern languages at Monash. They are in rooms 314, 320, 321, 322 of the western corridor, third floor, Humanities (10).

## JAPANESE

Film: Harp of Burma, 2.30-4.30, HI (Humanities, 10).

## LAW

2-2.45: Address by Professor Enid Campbell, Dean of Law, "Learning the Law", discussion theatre L3 (11).

2.45-4.30: Mock trial by Law Students' Society in Moot Court (11).

11-4: Staff members will be available to answer enquiries. Law school building open for inspection (11).

## LIBRARIES

The Monash University Library is a system of libraries with major branches in various parts of the campus convenient to the people who use them. They will be open throughout the day.

The Main Library serves the Faculties of Arts, Economics and Politics and Education (4). The Bio-Medical Library is with the Faculty of Medicine (12). The Hargrave Library serves Science and Engineering (26). In the Main Library there are a number of different book collections — research, rare, undergraduate and microfilm.

## LINGUISTICS

Phonetics laboratory, 11th floor, Humanities (10). Open all day. Acoustic analysis of speech sounds and a display on aboriginal languages involving tapes, photos and maps.

MANNIX COLLEGE, open for inspection, 2-5, a conducted tour available. College is in Wellington Road.



A feature of the display in the Education Faculty is the Elwyn Morey Child Study Centre. This centre has a dual purpose. It provides a kindergarten for the children of staff members and families in the Monash area and, secondly, it allows students to observe and study the individual differences in the development of pre-schoolers. Pictured above is the view through the centre's observation booth, and three children in free expression lessons. The booth has a two-way mirror so children can be observed without knowing.

## The fight against pollution

**NOISE, pollution, wind turbulence - three of the scourages of modern urban living - are under constant, close scrutiny in the university's Department of Mechanical Engineering.**

Open Day visitors to the department (Engineering Building 5) will see a fascinating array of equipment, tests and experiments used by staff and students seeking the answers to these and many other problems.

Among the major items of equipment now nearing completion is an anechoic chamber - next to the vacuum, the nearest thing to a completely soundproof space yet devised. This huge structure, isolated (and insulated) from the surrounding building will be used to measure the acoustic behaviour of noise sources - for example, loudspeakers, machines - and of various instrumentation devices.

The wedge-covered walls absorb practically all incident sound, so that test equipment inside the chamber is not affected by unwanted reflections of sound from the walls.

In the field of fluid mechanics, the department makes use of wind tunnels for a variety of purposes. Its work in investigating the effects of wind on tall city buildings is already well known.

Small teaching wind tunnels are used for demonstrating the patterns of airflow over aeroplane wings, models of houses, cars, etc. These patterns are made visible by injecting streams of dense smoke into the air flow.

A large wind tunnel (4.5 metres x 3 metres x 30 metres long), which will go into service soon, is designed to produce air speeds up to 250 mph. An important feature is that a model of a group of buildings is subjected to air flows which simulate accurately the characteristics of natural winds; this is achieved by growing a representative boundary layer in the airstream ahead of the test section.

Research in marine environments is another important aspect of the department's work - particularly the project concerned with proposed development in Westernport Bay.

The department is studying the "hydraulic regime" of the bay, with emphasis on the diffusion of pollutants and the transport of sediment, in an effort to

find ways of avoiding permanent damage to the bay, but at the same time facilitate industrial development in the area.

Another research project is the study of turbulence in coastal waters, aided by an underwater instrument package designed and constructed within the department. Shaped like a small torpedo, the package contains transducers, computing elements and control circuits for measuring and recording different features of the flow around it - at depths up to 100 metres.

In the field of production science, there will be displays of equipment used for machining and forming which include:

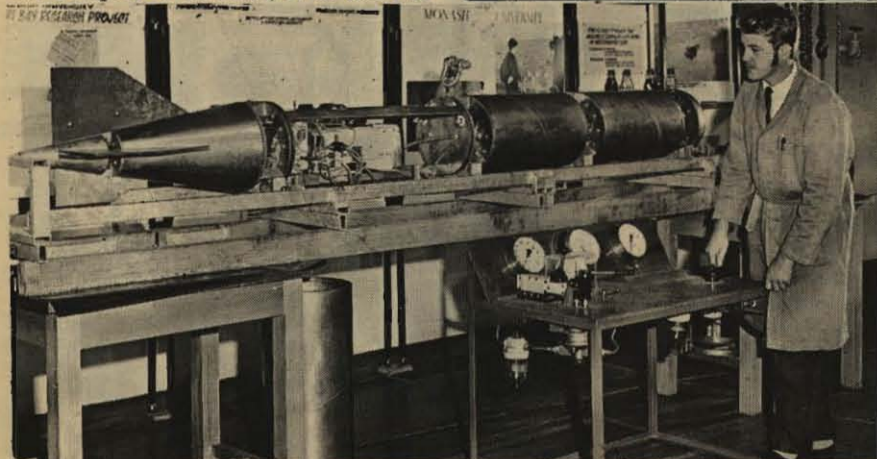
- A special cutting rig for taking straight line cuts at speeds up to 2500 ft/minute.
- A high speed lathe with infinitely variable speed control, used for studying dynamic cutting mechanics and tool wear.
- Various dynamometers for force measurements in machinery and forming.
- A test rig using a Bofors gun for a study of machining processes at extremely high speed cutting rates (up to 8000 ft/sec). The special projectile carries the work piece past the cutting tool and is brought to rest in a bed of sand. The cutting process is photographed on a very high speed camera, and the forces are measured on a dynamometer.

### One for the cook

Housewives - and, for that matter, men who venture into the kitchen - will be interested in the display and chart prepared by Dr. A. Williams, senior lecturer in Mechanical Engineering.

Dr. Williams' research has shown that cooking utensils are more efficient and economical when they sit flush on an electric heating element. The saving in electricity can be as much as 30 per cent.

He suggests that one way to cut down costs and best utilise electricity is to make sure that saucepans have lids. The heavier the lid, the better.



ONE of the weapons in the fight against pollution is this "torpedo", used in a study of turbulence in coastal waters—and particularly in checking currents in Westernport Bay.

# HOPE FOR DIABETICS

ONE SECTION of the Biochemistry Department display will be devoted to explaining the research of Professor J. Bornstein's group into diabetes.

A feature will be a new instrument, which enables the measurement of the blood glucose level in a mere 90 seconds.

Developed by the Ames Company, long experienced in the preparation of test papers for detecting glucose and other biological chemicals, this instrument has been specially flown to Australia for demonstration on Open Day.

The Neurochemistry group in the Biochemistry Department has commenced work on a research project dealing with muscular dystrophy; a crippling muscular disorder occurring in its severest form in male children and for which there is no cure.

This group is using salamanders to study the controlling influences of nerves on muscles because these animals are able to regenerate muscular tissue. Reduction in neural output to the affected muscles has been suggested as the primary cause of the disease.

Another project currently being investigated is the biochemical basis of memory. Chickens trained by a single learning trial to avoid a chemically impregnated pellet, forget this learning experience after certain drugs are injected into the forebrain.

Attempts are underway to correlate the biochemical changes produced by the drugs with memory loss.

### Continuous displays, demonstrations:

Any time from 11 to 5 — full details on pages 6-7.  
 Union Building (9 on map): Academic costume, Art, Bookshop, Careers and Courses Centre, Clubs and Societies, Weaving and Pottery, Cartoons and films.  
 Humanities Building (10): Anthropology and sociology museum, English, French, German, Language laboratories, Linguistics, Russian, Spanish.  
 Medical Building (12): Audio-visual Aids Van, Anatomy, Physiology, multi-disciplinary laboratory, Biochemistry.  
 Engineering (31): Mechanical Engineering, Materials Engineering, Civil Engineering, Chemical Engineering, Engineering Services.  
 Engineering (30): Electrical Engineering, Chemical Engineering Computer.  
 Also available: Botany (Science South, 16); Computer Centre (Mathematics, 32); Bio-medical library, (13); Education, (5); Hargrave Library, (26); Law School Inspection, (11); Physics, (22 and 25); Main Library, (4); Religious centre inspection, (8); Zoology, (17).

### Check the time for these:

TIME	DURATION	DEPARTMENT	ACTIVITY	AREA
11.00 a.m.	45 mins. cont. 5 hours all day 1 1/2 hours cont. 5 1/2 hours cont. 30 mins. 1 1/2 hours. All day.	Anthrop. and Soc. Weaving and Pottery Pooh Club. Chem. Eng. Education French German Union	Films Demonstrations Goon tapes and coffee Films Films Films Films Cartoons and films	H.2 Fine Arts Area Women's Lounge U. G.17 Eng. Bldg. 4 G.39 Educ. Bldg. Lang. Lab. I. R.5 Union Theatre
11.15 a.m.	30-45 mins.	Alexander Theatre	Tour	Alexander Theatre
11.30 a.m.	1/2 hour. 45 mins. 20 mins.	Philosophy Physiology Russian	Discussion Video tapes Films	Phil. Library M.3 Lang. Lab. I.
12 noon	2 hours 2 hours 1/2 hour 1 hour	Grill Room Engineering students French German	Luncheon served Barbecue Films Demonstration	Union Eng. Theatres foyer Lang. Lab. I. Lang. Lab. II.
12.15 p.m.	30-45 mins.	Alexander Theatre	Tour	Alexander Theatre
12.30 p.m.	20 mins.	Russian	Films	Lang. Lab. I.
1.00 p.m.	1 hour. 45 mins. 30 mins.	Modern Dance Anthrop. and Soc. French	Dance Exhibition Films Films	Alexander Theatre H.2 Lang. Lab. I.
1.30 p.m.	3 1/2 hours cont. 20 mins.	Chem. Eng. Russian	Films Films	G.17 Eng. Bldg. 4 Lang. Lab. I.
2.00 p.m.	30 mins. 45 mins. 3 hours. 1/2 hour. 3 hours. 45 mins. 3 hours. 1 hour	French Law Mannix College Philosophy Politics Physiology Sports Monash Players	Films Address Open to view Discussion Debate Video tapes Aikido Poetry reading	Lang. Lab. I. L.3 Mannix College Phil. Library H.4 M.3 Sports centre Main dining room
2.15 p.m.	All afternoon. 1 hour.	Sports and Rec. Assoc. Music	Baseball, Hockey, Football matches A' Cappella Choir	Sports Ovals Robt. Blackwood H.
2.30 p.m.	1 hour. 1 1/2 hours. 2 hours. 20 mins. 1 hour.	Economics German Japanese Russian Modern Dance	Talk Films Films Films Exhibition	H.3 R.5 H.1 Lang. Lab. I. Alexander Theatre
2.45 p.m.	1 1/2 hours.	Law	Mock Trial	Moot Court
3.00 p.m.	30 mins. 30 mins. 1/2 hour	Anthrop. and Soc. French Debating Society	Films Films Debate	H.2 Lang. Lab. I. Main dining room
3.30 p.m.	1 hour. 1/2 hour. 1 hour. 45 mins. 20 mins.	Economics Philosophy Music Physiology Russian	Talk Discussion Chamber Orchestra Video tapes Films	H.3 Phil. Library Religious Centre M.3 Lang. Lab. I.
4.00 p.m.	1 hour. 1/2 hour	Modern Dance Blues Society	Dance Exhibition Activity concert	Alexander Theatre Main dining room



# RICHARD II AT MONASH

by DAVID BRADLEY,  
Professor of English

**RICHARD II**, Shakespeare's story of the deposition of Richard Bordeaux by Henry Bolingbroke, will be performed at Monash later this month.

It is one of the most ceremonial and decorative of Shakespeare's plays and offers actors some of the finest lyrical roles in our theatre.

At the same time it is a serious and gripping play about politics and has many close parallels with modern problems, not excluding problems of campus confrontation.

The Monash Players are fresh from their recent success with *Indians* which was performed both at the Alexander Theatre and at St. Martin's.

## University cast

The cast of *Richard II* is drawn from students and staff of the University. The production is the first experiment in co-operation between the Players and the newly formed Theatre Guild which has been set up to encourage performances of high standard, and to ease some of the burden which busy University groups find in mounting productions on the scale, and with the finish, demanded by the Alexander Theatre.

In keeping with the desire to present the best possible productions and to foster closer links between professional and campus theatre, Max Bartlett well-known actor and director has been invited to play the starring role of Richard.

He has been closely associated with the Players and the Alexander Theatre during the year, as director of *Indians* and *Othello*, and has given a strong impetus to University drama generally through his workshop sessions and private classes.

The costumes have been designed by Susan Cooke, a graduate scholar in English, who has recently come to Monash from the University of Birmingham where she has worked in the Shakespeare Institute both as a student and a designer.

The setting has been designed by an Arts



student, Mark Matcott as a modified version of an Elizabethan tiring-house facade and many helpers from all Faculties in the University are busy about the preparation of the show.

This production of *Richard II* is designed to emphasize its contemporary appeal and liveliness and is by no means a mere academic exercise - it has its function in the work of the University.

My own research work is Elizabethan theatre and a number of post-graduate students are also working in this field. The production draws on some of their investigations, while also helping the teaching of the English Department, in whose syllabuses some of Shakespeare's

History Plays are currently set for study in the first and second years.

Bookings for *Richard II* may be made at the Alexander Theatre, at the Monash Players table in the Union, or by ringing the Box-office 541-3992. It opens on July 29 for a seven-night season, until August 7 - no performances on August 2 and 3. Tickets: \$1.50, student concession \$1.00; School parties 80c.

Note: Professor Bradley will direct *Richard II*. He was one of the founding members of the Monash Players in 1961 and has produced for them Shakespeare's *A Midsummer Night's Dream*, *A Comedy of Errors*, *Much Ado about Nothing* and Marlowe's *The Jew of Malta*.

THE COSTUMES for *Richard II* have been designed by Susan Cooke, a graduate scholar in English. Some drawings made by Susan for the production are shown above.

## ART SHOW IN GREAT HALL

One of the most interesting of this year's Melbourne art shows begins on September 17 at Monash University.

Almost under the dazzling circular eye of Leonard French's recently completed stained glass window, some of Australia's best painters and sculptors will show major works - works rarely or never seen before in public, or works usually inaccessibly housed in private collections.

From established figures (such as Arthur Boyd, John Olsen, Fred Williams, John Brack and Sidney Nolan) to the outstanding younger talents of Scubergs, Jacks, Hickey, Booth and Johnston - this is the range. There has been only one criterion in the selection... Quality.

Though the accent is on contemporary art, the exhibition takes in strongly individual works from earlier periods of Australian art as well.

One unusual aspect of the show is that it is partly a loan exhibition from private collections and partly a show which offers important art for sale. It is highly selective prestige affair and the works shown will be seen to advantage in the Foyer of the Great Hall, a dignified and spacious setting for what the memorable event in the Melbourne art calendar.

The show ends on October 3.

## THE PAPER WORK OF MEDICAL MEN

The Monash Faculty of Medicine has been one of the most prolific contributors to scientific meetings held throughout Australia in recent months.

This is revealed in figures compiled by the Dean, Professor R. R. Andrew, of research papers presented by all Australian universities, C.S.I.R.O., professional societies and associations, cultural bodies, etc.

The following table shows the number of papers presented by the nine oldest departments in the faculty against the most recent (and important) meeting of the association or society to which they contributed:

	Total papers	Departmental Contribution	Percentage
A	23	3	13
B	45	10	22
C	50	2	4
D	34	9	26
E	37	8	20
F	200	15	8
G	80	21	26
H	40	13	33
I	50	7	14
	559	88	16%

Professor Andrew commented: "The Monash contribution in aggregate shows 88 out of 559, i.e. 16% for the biological and clinical sciences concerned. This suggests the very significant contribution to research, particularly in view of the fairly recent establishment of some of these departments."

## Monash Library Fund

When the Monash University Library was established in 1961 its stock of books represented an average of 116 volumes per student - a more than adequate number.

Today, because of a disproportionate growth in the student population it has only 37.6 volume per student, compared to the Australian Universities' average of 66 volumes.

The University now aims to increase this figure to 70 volumes per student - but this will mean the purchase of up to 60,000 volumes a year over the next eight years.

Shortage of money will make this difficult: in this financial year alone, desirable expenditure will exceed the funds available by \$60,000.

In an effort to solve the problem, the

### Banking on Monash

The Red Cross Mobile Blood Bank is currently paying its second visit to Monash within a period of three months.

By the end of this year the university will become Australia's main centre for blood collection by mobile Red Cross blood units.

The current visit is for six days and will end on Monday. In October-November it is planned to extend it to nine days and next year to three ten day visits.

Up to 120 people, almost entirely students, give blood each day.

In the past donors have been turned away and this is why Red Cross is extending its visit. The students, "reward" - tea, biscuits and profound gratitude.

University has launched an appeal for library funds directed to parents, graduates and friends of Monash.

Those interested in Monash and the Monash Library are being asked to contribute multiples of \$8 (the average cost per volume) and, for each \$8 donated, an attractive bookplate acknowledging the gift is affixed to the book purchased by the donation.

The Vice-Chancellor, Dr. Matheson, has written to the parents of the 1971 graduates, seeking their support and enclosing bookplates for their personal inscription. The response to date has been most encouraging. Some 197 parents have contributed more than \$2500 - sufficient to buy 314 books.

Staff, students and visitors are invited to inspect the library fund display situated in the main library and to contribute to the fund.

### THE JOB RACE

Current economic conditions in Australia suggest that the numbers of jobs for graduates in most categories would be less this year than they had been for some time, Warren Mann said in the June 18 issue of the *Careers Weekly*.

"This probability, taken in conjunction with the growing output of graduates from the three universities, and the increasing competition from diplomats of the colleges of advanced education, leads me to believe that some graduates will have difficulty in securing suitable positions," Mr. Mann said.

Mr. Mann is the Careers and Appointments Officer at Monash.

"Although arts and science graduates are those most likely to be affected, the position is by no means secure for those in engineering and economics," he said.

"The people who get the jobs, and in particular those who get the best jobs, will be those who have prepared themselves most fully and most realistically."

Mr. Mann said students should register immediately with the Careers and Appointments Office, see a variety of employers during the second term Employer Interview Programme and read the Graduate Careers Directory from the C&A office.

# International outlook for university club

by Jenny Cumming,  
an Economics student.

The opportunity to travel and work in a foreign country, to meet overseas students and to enter the ever progressive world of business - are only part of the story behind AIESEC (pronounced - Iesec).

AIESEC (Association Internationale Des Etudiants En Sciences Economiques Et Commerciales) is basically an international association of economics and business students.

It was founded in 1948 when students of seven European countries exchanged a total of 89 traineeships. Since then over 50,000 students have taken part in the exchange programme and more than 350 universities in 47 countries are now involved.

Australia received its first Aiesec trainee in 1964 and now there are seven active local committees in Australian universities incorporating Western Australia, NSW, South Australia and Victoria.

The National Committee of Australia is the main co-ordinating body and Australia is somewhat unique in employing a full-time national president to aid the efficiency of the organization.

The selection of trainees is made by computer where the requirements of the company is matched with the applications of the students.

On average, Monash University receives 6 or 7 trainees to work here annually and so far this year Monash has received four trainees.

Betty Dunham, from Alabama, is working with the State Electricity Commission on an eight-month traineeship primarily in market research.

Other new arrivals are Birhs Bovaird from Montreal, who is working with Balm Paints, I.C.I., on a four-month traineeship; Kyoko Tanaka, a Japanese girl, who is with the National Bank, moving through the suburban, city and Head Office administrations before returning to Japan. More trainees are expected from Sweden and America to work with C.R.A. and Petersville respectively.

From these examples, it is apparent that Aiesec is by no means a low level, insular university club.

It has support and connections with most of Australia's major business organizations, including B.H.P., I.C.I., C.R.A. and several of the large banking companies. Also, amongst the members of the Board of Advisers can be found other interesting names, for example, Dr. Cook, the Secretary for the Department of Labour and National Service; and Professor Cochrane, Dean of Economics and Politics at Monash.

The number of Monash students going overseas as trainees is increasing every year.

Places visited by Monash students in the past include Turkey, America, Europe and



Betty Dunham, trainee from Alabama. (Photo: S.E.C. News)

England. Currently two Monash graduates are preparing to leave. They are Donald McNeur (B.Ec) who has been offered a traineeship in Johannesburg, and Peter Addison (B.Ec) who has a traineeship in Germany. When asked why he applied for a traineeship, Peter replied - "To further my business experience in marketing and to broaden my outlook on economics and how it can be applied to other parts of the world."

Other Monash students have been involved in short-term summer vacation traineeships, for example, John Parker (5th year Eco/Law) who has been on two trips to the U.S.A. and he was a member of the National Committee at last year's international congress at The Hague.

It can be seen from this brief resume that Monash is indeed playing an active and integral role in this growing international society. Monash is involved in all spheres of AIESEC - in the raising of traineeships for overseas students, in the reception of overseas students, and the processing of the overall exchange programme.

AIESEC itself is basically a non-profit, non-political organization aimed at benefiting both students and companies all over the world, by making available the opportunity for students to develop new skills and interests in a different environment and for companies to broaden their training programmes and public relations sphere by including persons outside their own country.

The late Senator Robert Kennedy said, when describing Aiesec, that it was "one of the most efficient and productive efforts to create better mutual understanding among people of the world and to train better future leaders."

Any enquiries regarding AIESEC should be directed to: AIESEC Local Committee, C/- Monash University Union, CLAYTON, 3168 Vic. or Room 167, Robert Menzies Building, Ext. 2444.

## THE BIG STUDENT MOVEMENT

by Peter Hicks

Doing anything this summer? Why not go to Peking for real Chinese food or try skiing at St. Moritz?

Can't afford it! Nonsense! Under the AUS travel scheme a return trip to San Francisco costs \$533 - normally it is \$999.60. Similar savings are available right round the world.

This year about 3000 students are expected to use the AUS travel scheme - AUS by the way stands for Australian Union of Students, a national tertiary student organisation with its headquarters in Melbourne.

How did it all begin? It started in 1962 at Melbourne University with a group of eight students. The students felt that overseas travel, especially in the three-month Christmas vacation, was a high priority of many students.

The scheme has just grown. In 1970

more than 2000 students were exported to almost every country in the world, and now previously untouched countries like Mainland China are included in the scheme.

The organisation is almost completely professional with a full-time student National Travel Director and the backing of the World Travel Service.

Most university campuses have their own AUS travel office.

The scheme does more than simply land students on the doorstep of foreign hosts - many of the trips are worked on the basis of exchange schemes.

This year AUS is hosting students from Japan, Fiji, USSR, Britain, Europe and the USA. The students are first given homestays with Australian families and are then let loose on the general populace for the remainder of their visit.

# A RACE APART

By Dr. KEN DYER, Lecturer in Genetics

RACE, racism and racist - probably three of the most controversial words in the English language. But what does "race" mean?

I would suggest that many people who use the term are not sure of its implications.

All of us, whatever our disciplines of study or our opinions, owe it to ourselves to be clear about the meaning and the use of a word which has such emotional overtones.

The word itself is linked with the Romance languages - French race, Italian razza and Spanish raza. By 1600 it meant "a tribe, nation or people, regarded as of common stock" and in 1842 another common usage is cited by the Oxford Dictionary, "a group of several tribes or peoples forming a distinct ethnic stock."

Race in biology today is a term descriptive of populations not individuals.

Two examples - W. C. Boyd, "Genetics and the Races of Man", 1950: "A race is a breeding population or interbreeding unit, which differs from all others in the frequency of one or more genes." and A. Barnett, "The Human Species", 1961: "A race may be defined as a group which shares in common a certain set of genes, and which become distinct from other groups as a result of geographical isolation."

But some authorities deny that races exist in man at all (Ashley Montague, "Man's Most Dangerous Myth", 1964, for instance). Man has always been a restless nomadic animal, says the thesis. His genetic and phenotypic characters are correlated with climatic and other environmental variables and change gradually and insensibly from one population to another in a regular and unbroken fashion.

There are three different and mutually exclusive reasons for defining human races and only by understanding each one can we fully comprehend the modern usage of the word race. They involve anthropology, sociology and biology.

The anthropological concept of the word race is the oldest. Many of the great anthropologists of the past collected their data with a belief that there was one idealised type for each race and this colors many statements in the older literature.

The anthropological concept treats races as fixed and immutable entities comprising individuals each of whom possesses a certain aggregate of characters which, individually and collectively, serve to distinguish them from the individuals in all other groups.

### Threefold classification

Biology involves a threefold level of classification. The largest and most fundamental groups of mankind are termed Geographical Races. These embrace the major divisions such as Caucasoid, Negroid, Mongoloid and Pacific peoples and as many as nine of these races may be recognised by various authorities.

As sub-divisions of these major stocks we have Local Races. About thirty of these are recognised around the world and within our own area of the Pacific. Dobzhansky, in "Mankind Evolving", for instance, recognises the Dravidians of India and Ceylon, the Negritos of the Pacific Islands, Melanesian-Papuans, Micronesians, Polynesians, neo-Hawaiians, Murrayians and Carpentarians.

Obviously areas of controversy are beginning to creep in here. At the lowest level of all there are the Micro Races. There would be many hundreds of these around the world since we are here dealing with the level of the tribe, the city state, or the famous three regions of Gaul.

It is not always clear just which level of complexity is meant in many discussions and obviously the political implications as well as the biological are very different if we choose to regard, say, all peoples from Europe, the Near East, Western Asia and India as one Geographical Race, or as ten Local Races (as most geneticists would) or as 100 Micro Races as perhaps actually exist.

And there is the sociological aspect and definition of the term race.

In South Africa and some of the States of the USA, for example, the existence and definition of different races is written into many aspects of the law, and, as we have been recently reminded, this situation is also true of two States in Australia.

According to social scientists a race is defined as being "a group of mankind, members of which can be identified by the possession of distinctive physical characteristics".

The reality of this definition in socio-political terms impinges upon the human biologist and anthropologist in three ways.

First it presents him with a definition of race from which he finds it exceedingly difficult to escape and which determines much of the research he does in this field. In the US all hybrids between Europeans and Negroes are classified socially (and in many areas legally) as "Negroes", whatever the proportions of the contributing genes. (Current research shows that the average Negro in the USA has between 20% and 25% white admixture anyway). Similarly hybrids between Indians and Europeans are regarded as Indians.

Such a situation has a profound influence upon the genetic processes taking place in these races and also upon the statistics of racial integration and composition which are collected in the USA.

### Intermediate classes

In South America the position is normally reversed - that is, the term Negro is reserved only for those expressing the complete range of Negro characteristics. There are a number of officially recognised intermediate or hybrid classes such as mulattoes or mestizos in addition to the three major racial types, European, Negroes and Indians. The sociological and biological consequences are very different in North and South America and yet the three major races concerned are the same.

The second interaction between sociology and biology is due to the fact that matings with inhuman breeding populations are determined by the dictates of culture as much as, if not more than, by specifically physical features. The pressures on people of the same religion to marry, for instance, is one aspect of this, as is the likelihood of people of similar economic circumstances to marry.

The third major area of interaction is, predictably enough, a highly controversial one. A belief in innate racial differences in ability and intelligence has been used and indeed still is being used to decide on particular educational and economic systems.

The eminent American educationist, Arthur Jensen, claimed in 1969 that there is a significant difference in mean IQ between Negroes and Whites in USA. The almost unanimous response of population geneticists was that he had failed to fully substantiate his case and that his call for a rethinking and presumably a cutback of educational programs aimed at supplementing environmental deprivation was misplaced.

It is unfortunately true that a too simplistic view of racial differences as evidenced in a potentially dangerous way by Jensen, and in an actual unjust way by the South African Government, seems often to hold sway.

Mankind is an infinitely diverse species with a rich evolutionary history.

The phenomenon of race is one manifestation of this diversity-complex biologically, incompletely understood, but hardly a justification for the evils which have been practised in its name.

# "According to the evidence..."

Monash Faculty of Law scored a notable 'first' with the premiere last month of 'According to the Evidence', a half-hour teaching film on the techniques of adducing and testing evidence.

The film has already been enthusiastically acclaimed by other Australian law schools, and it is hoped that copies will be sold in other States and overseas.

Professor David Derham, then dean of the faculty, now Vice-Chancellor of the University of Melbourne, first suggested the film five years ago as an educational research experiment in legal education.

A pilot committee was formed in 1967 to oversee the project. It consisted of Mr H. B. Connell, sub-dean of the faculty (chairman), Mr E.D. Lloyd and Mr J.A. Gobbo, of the Victorian Bar, Mr J.D. Collins of the Law Institute, and Mr W.T. Charles, special lecturer in law. Mr N.P. Williams, senior lecturer, was later co-opted.

Mr Lloyd wrote the script and Crawford Productions was commissioned to produce the film, using a cast of professional actors.

The film - a simple husband-wife altercation resulting in a criminal trial - was completed in December, 1970, at a cost of \$8300. It will be shown at the Australasian Universities Law Schools Association Conference next month.

Our picture, taken during production, shows (from left) the producer, Ian Crawford, discussing the script with actors Keith Eden, Nigel Lovell and Tim Elliott.



## When a girl turns into a pumpkin

The following question was set at Monash in a recent first year Physics Department examination on relativity.

The department felt it might go some of the way towards meeting student demands for more social relevance in their courses.

(It should be explained that according to Einstein time 'slows down' appreciably for travellers moving near the speed of light (C) relative to the earth.)

Cinderella suffers from the social handicap of turning into a pumpkin if she leaves home at 7 p.m. and does not return before 12 p.m. by HER watch.

Cinderella leaves home at 7 p.m. with a constant velocity  $V = 4/5 C$  for a ball on Saturn AT REST a distance  $X_0 = 1$  light-hour with respect to the earth.

(a) Till what time, at the latest, by her

watch can she remain at the ball and still be sure of not turning into a pumpkin? (She can only travel at a uniform velocity  $V = 4/5 C$  with respect to the earth.)

Cinderella leaves Saturn at 11.30 p.m. by her watch (this is 12 p.m. by earth time) to return to earth.

(b) At what time, by an earth clock, does she turn into a pumpkin?

The Prince (there is always a Prince) leaves Saturn  $1/12$  of an hour (by an earth clock) after Cinderella and chases her with speed  $V = 8/9 C$  relative to Saturn frame.

(c) Calculate whether he gets to her before she changes.

Dr. Harry Perlman, senior lecturer in physics, says that the question the department actually would prefer to have asked went like this -

A woman goes off on a rocket trip and on returning two years later by earth time gives birth to a child. What is the minimum speed with which she would have had to travel in order to support a paternity case against a man who stayed on earth?

Dr. Perlman says the department did not ask that one because they thought it had too much social relevance.

And the answers? Ask Dr. Perlman. The Monash number is 544-0811.

## SCREEN TEST

SCREEN wants to encourage research projects on university education and will give financial assistance in 1972 for selected projects.

SCREEN is the Steering Committee on Research and Experiment into Education Matters and is part of the Australian Vice-Chancellors' Committee.

In 1972 the committee plans to encourage research into the following fields of undergraduate education:-

1. the possibilities and problems of teaching in groups of different sizes (including teaching in small groups);
2. studies of attitudes, objective, perceptions and skills of university teachers;
3. evaluations of the effectiveness of teaching by TV and by the use of other audio-visual aids within Australian universities;
4. evaluations of the effectiveness of different forms of examinations and of different examining practices;
5. studies of work-loads placed upon undergraduates, including the manner in which they are affected by the requirements of separate departments, or by the introduction of different types of examining practice.

But Note: Preference will be given to projects which have a strong collective interest for all the Australian universities or which involve co-operation or co-ordination between the universities. None of the projects supported in 1971 was in areas (2), (4) or (5) above and the above broad areas will not necessarily be the ones to receive support in 1973.

Members of university staffs are now invited to submit proposals for projects which fall within the areas specified above.

Applications should set out in all necessary detail the objectives of the proposed project, the manner in which it will be carried out, the personnel who will be involved, the estimated length of time required for completion, the estimated cost of the project, and the amount of financial assistance required, together with a statement of the manner in which it is proposed that the results of the experiment will be evaluated.

Applications should be received by mid-August, 1971, be addressed to Dr. K. H. Star, P.O. Box 182, RANDWICK, NSW, 2031, and be forwarded through the Registrar of the applicants' university.

## What they are saying...

"The function of a law school is to teach basic principles and the ability to think based upon those basic principles. It would be a mistake and no service to students to depart from this basic function." Professor H. Ford, Dean of Law, Melbourne University, at a recent Monash graduation ceremony.

"Pigment protects vital cells from damage by ultra-violet solar radiation; their deficiency in fair-skinned people, to be regarded as a genetic defect in a sunny country such as Australia, often leads to skin cancer. Racial admixture with dark-skinned people could in time help to correct this defect." From an abstract of a paper given at ANZAAS by Professor A.K. McIntyre Professor of Physiology.

"I think there is a mood growing in the Universities and has been growing for some time that they should be outward-looking institutions, looking out to society and seeing how they relate to it.

"I think this has been led to a marked degree by the so-called 'student revolution', but I think there are also academics who feel they want to see their work relating to the outside world and I would like to think that this connection with industry, is one way of doing it. It means that academics, one would hope, would be less narrow, if

they are, and would always try and relate their work to the outside world." Dr. John Rushbrooke, an Australian nuclear physicist and Fellow of Downing College, Cambridge University, interviewed on ABC radio.

"Many adults are being denied access to summer schools because of limited resources, facilities and funds. . .

"... The present Australian programme will be unable to approach a level of achievement comparable to that provided by countries whose economic status is comparable to ours until additional funds and facilities are available." From the press release issued last month after a two-day conference on adult education at Monash.

"To gain a university place a student will struggle very, very hard with whatever he thinks will get him good marks. If Hamlet is set for study, the student will read it ten times rather than study Shakespeare as a whole." Professor S.S. Dunn at his press conference on the first day of his new appointment as Dean of Education.

"Australia's overseas educational aid is misdirected and totally inadequate. It is obvious that the government is not sympathetic to the requests of some of the major subscribers to the Colombo Plan." Ken Newcombe, Education Vice President Australian Union of Students, in a June press release.

## BOOKS FOR SALE

The Monash representative on the Women of the University Fund has the following books for sale in aid of the Fund's charities. Anyone interested should telephone Netta McLaren on 25-3424.

Gustafson A. & Z.: The Foundation of Death. A Study of the Drink Question. Pub. H. & S. 1888. \$1.50.

Wilkie & Osborn: Almost Human - Reminiscences from the Melbourne Zoo. Pub. Whitcomb & Tombs pre 1918. \$1.50.

Blackmore, R. D.: Lorna Doone. Pub. Dent 1911. Leather bound, Gold tooling. \$1.20.

Morley, A. C. & Eds.: Australian Manual of Accountancy & Commercial Law. Vic. Edn. Pub. Elliot, 1912. \$1.00.

Crookes, Wm. F. R. S.: Researches in The Phenomena of Spiritualism. Pub. Burns 1874. \$1.00.

Educational Course: Rudiments of Zoology illus. with wood engravings. Pub. Chambers 1871. \$1.00.

Galsworthy, John: Plays of. Pub. Duckworth 1932. \$1.00.

White, James: A Compendium of the Veterinary Art. incl. managements of the stable & structure of the Horse. Illus. 18th Edn. Pub. 1851. \$1.00.

Culbertson, Ely: Contract Bridge Complete. Pub. Faber. 80c.

Lin Yutang: Vigil of a Nation. Pub. Heinemann. 1946. 80c.

Feuchtwanger Lion: Jew Suss. 7th Edn. Pub. Secker 1927. 80c.

Gibbons, Stanley: Various stamp catalogues. Prices on application.

# NEWS IN BRIEF

# FRENCH STARS HERE



## NUCLEAR COURSE

The Australian School of Nuclear Technology, Lucas Heights, NSW, will hold a course in radiological protection from September 13 to October 1 this year.

The course is intended for those who have a knowledge of mathematics and atomic-nuclear physics comparable to at least first year, preferably second year, university standard and are working in the field of radiological protection or failing this are scheduled for such work in the future.

It will be given by staff of the University of NSW and the Australian Atomic Energy Commission with the co-operation of Radiation Protection Officers at Universities, Officers of State Health Departments and of the Commonwealth X-ray and Radium Laboratories.

Applications, which close on August 9, should be sent to The Principal, Australian School of Nuclear Technology, Private Mail Bag, Sutherland, NSW, 2232. The fee is \$300.

## COMMONWEALTH BURSARIES

Applications are invited for awards under the Royal Society Commonwealth Bursaries Scheme, which provides a means for scientists of a proven ability to work with scientists of another Commonwealth country.

The bursaries will enable scientists to pursue research, learn techniques, or follow other forms of study in the natural and applied sciences. In the latter, Royal Society and Commonwealth Foundation Bursaries will be devoted especially to agriculture, fisheries, forestry and the development of natural resources.

Application forms and copies of the detailed regulations governing the scheme may be obtained from the Executive Secretary, The Royal Society, 6 Carlton House Terrace, London, S.W.1, to whom

completed forms should be returned to arrive before March 15 each year for proposed visits commencing in July of the same year and later, and before September 15 for proposed visits beginning in January of the following year and later. These closing dates cannot be varied.

## RESEARCH FELLOWSHIPS

A.I.N.S.E. Research Fellowships are offered by the Australian Institute of Nuclear Science and Engineering for suitably qualified persons wishing to undertake research projects within the institute's field of interest. Candidates for these awards must be nominated by an Australian University or the Australian Atomic Energy Commission.

The closing dates are 28th February and 31st August each year, and all nominations received by the institute after one closing date, will be considered together after the next closing date.

Research Fellowships are intended for scientists and engineers who have qualifications equivalent to the Degree of Ph.D., and are at a relatively early stage of an independent career. Minimum tenure is two years.

Further information may be obtained from:- The Executive Officer, Australian Institute of Nuclear Science and Engineering, Private Mail Bag, Post Office, SUTHERLAND 2232, NSW.

## MEDICAL ENGINEERING

The ninth international conference on medical and biological engineering will be held at the University of Melbourne Medical Centre from August 23 to 27.

Delegates are expected from Canada, Scotland, USA, Britain, Scandinavia and Japan.

The main object of the scientific programme will be to show ways in which the engineering sciences have contributed to the solution of medical and biological problems in such areas as diagnosis, therapeutics, hospital automation, aids to the handicapped, and basic medical research.

## ACADEMIC VACANCIES

The Careers and Appointments Office receives notices of vacancies from most universities in Australia and some from overseas.

As a service to members of staff and senior students, these notices are filed in the careers library of the Office, where they may be consulted during working hours.

Enquiries should be made to Miss Lois Hill on extension 3152.

## LEBANON

The Australian Embassy in Lebanon has suggested that Australian scholars travelling to Europe on sabbatical leave should consider giving lectures in Beirut on the way.

The Department of Foreign Affairs and Department of Education and Science have passed the request on to the Australian Vice-Chancellors' Committee.

The Secretary of the Foreign Affairs Department wrote: "The costs of these side visits would appear to be limited to accommodation expenses with, as the Minister for Education in Lebanon has suggested, his Ministry would also be prepared to consider meeting these expenses where necessary.

"There is, however, the problem of language. We understand that French is still the predominant European language in the Lebanon, and the Australian lecturer would probably have to deliver his lectures in French if he were to reach a wide audience."

Lecturers interested in taking up the invitation are asked to get in touch with the Secretary, Department of Foreign Affairs.

## SEX — NEXT MONTH

The article on the sexual knowledge survey made by Monash medical students has been delayed and will be published in next month's Reporter.

## WHO'S WHERE

Each month the Reporter will list academic visitors arriving during that particular month at Australian universities. The following list is the overseas arrivals during July. It is not an exhaustive guide as it depends on the information that comes from other universities.

**AUSTRALIAN NATIONAL UNIVERSITY**  
Anthropology & Sociology: Associate Professor Aram Yengoyan, University of Michigan as Honorary Fellow for 1 year.

Applied Mathematics: Dr. C. Paak, University of New South Wales as Honorary Resident Fellow, Queen Elizabeth II Fellowship, from July 14 for 2 years.

Economic History: Professor A. R. Prest, London School of Economics as visiting Professor from July 17 for 10 weeks.

Economics: Professor B. Fritsch, Centre of Economic Research, Zurich as Visiting Fellow from late July to October.

Educational Research Unit: Professor E. Sheffield, University of Toronto, from July 30 to August 6.

Forestry: Professor J. L. Chutter, University of Georgia from July 11 to 17.

Geology: Dr. A. Sugimura, University of Tokyo, as exchange visitor, from July 18 to August 28.

History of Ideas: Professor Kichitaro Katsuda, Kyoto University as Leverhulme Fellow from July to September.

Microbiology: Dr. B. A. D. Stocker, Stanford University as Honorary Fellow from July to December.

Theoretical Physics: Dr. R. S. McGregor, University of Cambridge as visiting Fellow from July to September 1.

**MONASH UNIVERSITY**  
Classical Studies: Professor E. T. Salmon, Professor of Ancient History, McMaster University, from July 7 to 14 inclusive.

History: Same as above.

Economics & Politics: Professor L. R. Klein, Benjamin Franklin Professor of Economics, University of Pennsylvania, from mid-July to mid-August.

Civil Engineering: Professor Nicholas J. Hoff, Head, Department of Aeronautics and Astrophysics, Stanford University, from July to November.

Enquiries about the precise dates of visits to Monash should be directed in the first instance to the Chairman of the appropriate department. Chairmen are requested to keep the Personal Assistant to the Vice-Chancellor informed about new senior academic visitors to their Department.

**MACQUARIE UNIVERSITY**  
Chemistry: Professor L. E. Strong, Eastham College, Richmond, Indiana, U.S.A. from July to December.

The French theatre group, Le Treteau de Paris, last month made its third visit to Monash in five years. The company, which spends much of its time touring the world, performed plays by Ionesco, Beaumarchais and Giraudoux.

The photo shows a scene from "Le Barbier de Seville" by Beaumarchais with Guy Michel (Figaro) and Annick Blancheteau (Rosine).

The company gave one matinee and one evening performance in the Alexander Theatre at Monash. It had an eight-day season at the Princess Theatre.

The Treteau is on its fourth world tour. This current Australian tour is managed by the Australian Elizabethan Theatre Trust with the patronage and assistance of the Australian Council for the Arts.

## New Zealand awards

Two Fellowships are being offered by the New Zealand Government to Australians for 1972. The purpose of these awards is to give men and women who have achieved distinction or have shown potential in the professions, primary and secondary industry, education, commerce, public service or the arts, the opportunity of training, studying or furthering their professional experience in New Zealand.

Application forms may be obtained from the Secretary, Department of Education and Science, (ANZAC FELLOWSHIP SCHEME) P.O. BOX 826, CANBERRA CITY, A.C.T. 2601. The closing date is 2 August, 1971.

Monash Reporter will be published monthly, as close to the first of the month as possible.

Copy deadline for the August issue will be July 21.

Letters and contributions from staff and students should be forwarded to the editor, Ian Anderson, c/ the Information Office, first floor, University Offices - phone 3087.

## Diary of events

### JULY

July 9: Department of German, film, Die Weber, 1927, b&w silent, 95 minutes, H.I., 8 p.m.

14: Second dose of oral sabin polio vaccine, Union.

18: Robert Blackwood Hall, Free concert, 2.30 p.m. Melbourne Choral, 80 voice choir.

19: Concert, Alexander Theatre, 1.10 p.m. A program of non-western music, including traditional songs, dancers, and a variety of instrumental groups.

20: Alexander Theatre, Australian Institute of Physics, Youth lecture by Gordon J. Troup on "Physics of Space Travel", 4 p.m. and 8 p.m. Details ext. 3635.

21: Seminar, Centre for Research into Aboriginal Affairs, Mrs. Lorna Lippmann, "Aboriginal Attitudes". R7, 3 p.m. - 4.30 p.m.

23: Department of German, film, Stresemann, 1956, b&w, German (sub-titles), H.I., 8 p.m.

26: Concert, Alexander Theatre, 1.10 p.m. Monash Chamber Orchestra. Conductor: Leslie Howard, Leader: Helen Cortis.

29: Robert Blackwood Hall, public forum on Papua and New Guinea.

### AUGUST

August 2: Concert, Alexander Theatre, 1.10 p.m. Sue Ellis, guitar; Vernon Hill, flute; Aleda Johnson, soprano; Huw Jones, harp. Program includes Stravinsky's Russian Songs.

4: Seminar, Centre for Research into Aboriginal Affairs, Dr. Elizabeth Eggleston, "Aboriginal children and the law", R6, 3 p.m. - 4.30 p.m.

15-20: Australian Academy of Science, 8th Australian Spectroscopy Conference, Details Dr. J. E. Kent, ext. 3573 or Miss Sandra Stackpole, ext. 3557.