

Was the 'bright star' seen by our early settlers?

Discovery of young supernova remnant by ANU astronomers

Four ANU astronomers have discovered the youngest supernova remnant yet found which exploded over the Southern Hemisphere probably less than 200 years ago. This unique discovery allows astronomers to view, for the first time, the innards of a star and directly test theories of the evolution of stars.

The astronomers, led by Professor Don Mathewson, Director of the Mount Stromlo and Siding Spring Observatories, made the discovery at the Siding Spring Observatory at Coonabarabran.

Professor Mathewson said the explosion would have resulted in the brightest star in the Australian sky and would have remained so for about six months. It would have been particularly noticeable as it was far from the Milky Way.

'We are hoping that Australians will search through their ancestors' pioneering diaries for a mention of this bright star. It would certainly have been seen by mariners and navigators and could have been seen by Cook or other later naval adventurers,' he said.

AWARE

'A hundred and fifty years ago, a period before the advent of electricity, people were much more aware of the stars than we are today. Squatters and droves probably noticed it. It could have been seen by inland explorers too, as it was most likely to have been seen in the southern half of Australia.'

Professor Mathewson said it was quite possible that historians or archivists had come across a mention of such a star but had not known of its significance to astronomers.

He said that in the Southern Hemisphere there had not been a major civilisation which had kept track of heavenly bodies, except perhaps the Incas of Peru.

By contrast at the courts of China, in India, Persia and Egypt, the court astro-

mer paid close attention to supernovas and interpreted them as omens or propitious signs for declaring war, for increasing taxes or for festivals.

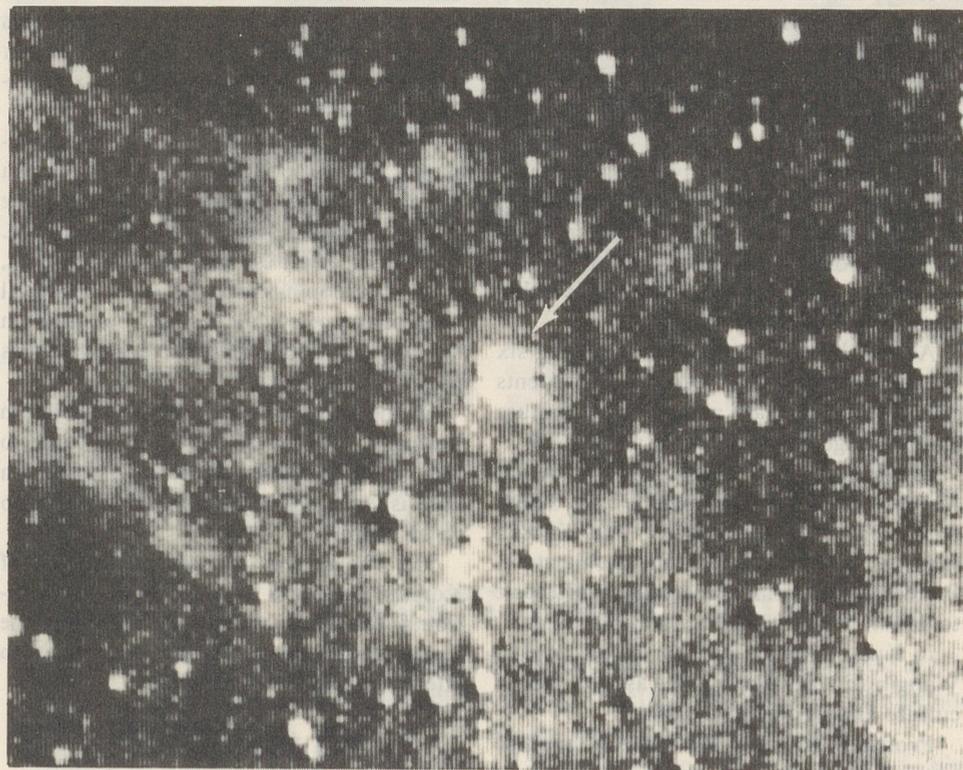
'This chronicle of astronomical events is missing in the Southern Hemisphere,' he said. 'It might, however, have appeared in Aboriginal art or ritual.'

'Now we have discovered it we hope people will assist us by accurately dating its original appearance. The date would be of enormous assistance to astronomers who specialise in the evolution of these objects.'

MASSIVE

In more scientific terms, the bright star which appeared last century was caused when a very young star, a million years old, and fifty times more massive than our sun, suffered an energy crisis and blew itself to pieces. The energy released in this catastrophic event would account for the six months appearance of the bright star. What the ANU group found was the debris of the central core of that star.

Professor Mathewson made the discovery with Dr Michael Dopita, Dr Ian Tuohy and Mr Vince Ford. 'We were observing at the Anglo-Australian telescope at lam in the morning, using standard techniques for the detection of supernova remnants. We were looking at a region of the sky from which intense x-ray emissions had been detected by the Einstein satellite. This revealed nothing. We then inserted an oxygen filter into the light beam. This allowed pure oxygen to filter through. Within seconds such an intense light appeared on our television displays that we felt very excited in the control



The supernova remnant (arrowed) as seen through the Anglo-Australian telescope, at Siding Spring Observatory, Coonabarabran N.S.W.

room. This was tempered by concern that we had damaged our very sensitive light detecting system.

SURFACE

'It was tremendously stirring because we then all realised, simultaneously that we had something "big on the line". What we were seeing was the pure innards of a star, the guts you might say, which had not been contaminated or diluted by the usual gases out in space.

'Normally you can only observe material at the very surface of a star and have to speculate about its interior which is where the fusion process builds the elements so important to the origin of life. The explosion releases these heavy elements into space and this chemically enriches the inter stellar gases from which planets such as earth were formed.

'We soon realised that our discovery, of the youngest supernova to date, was of immense value to test the theories of stellar evolution.'

Professor Mathewson presented details of the discovery—prosaically named SNR0540-69.3—to the Venice Symposium of the International Astronomical Union in August.

'The discovery of this young and unique object before it became contaminated, means it will be the subject of intensive study by Southern Hemisphere astronomers,' he said.

ANU Reporter is published on the second and fourth Friday of each month. Copy for the 10 December issue, the last for 1982, closes on Wednesday 1 December. Ideas for articles and photographs are welcome and should be directed to the Editor as early as possible before copy deadline. The first issue of ANU Reporter for 1983 will be published on Friday 25 February. Copy deadline for that issue is 16 February. For information or inquiries call the Editor, 4170.

New research centre for Maths Sciences

A Mathematical Sciences Research Centre is to be established within the Research School of Physical Sciences. The basic objectives of the Centre will be the advancement of research and training in the mathematical sciences, including computer sciences and statistics, both within the University and nationally, and the promotion of worthwhile interaction between mathematicians and other scientists.

It is hoped that the new Centre will serve as a focus to bring together mathematicians and statisticians who are at present dispersed in six departments across two Research Schools and two Faculties.

Useful models for such an organisation have been found in two centres established relatively recently within Research Schools—the Centre for Economic Policy Research in RSSS and the Centre for Recombinant DNA Research in RSBS—neither of which are independent of Schools and Faculties.

In 1981 the University provided \$25,000 for a Mathematical Visitors' Program under the Institute's 'New Initiatives' scheme and a further \$40,000 was budgeted for 1982 from the same sources.

These funds have been and are being used to support visitors to the six departments most closely allied to the mathematical sciences, including the former Department of Applied Mathematics, The Faculties.

It is hoped that the level of funding budgeted by the University for the Centre in 1982 can be maintained in subsequent years.



The team which discovered the supernova remnant, from left to right: Mr Vince Ford, Professor Don Mathewson, Dr Ian Tuohy and Dr Michael Dopita.

Korea provides link between China, Japan

A visiting Korean scholar has been providing students enrolled in Chinese and Japanese with the missing link between those two cultures.

The missing link is Korean culture as many aspects of Chinese civilisation reached Japan via Korea where they were modified and expanded.

The scholar is Professor Jeon Kyu-tae who is the author of thirty books on Korean culture (ten of which are in the national Library) and several volumes of poetry.

Professor Jeon is spending six months in the Faculty of Asian Studies, teaching Korean and informally supervising a PhD student working on Korean classical literature.

Professor Jeon holds two degrees from Yonsei University and a PhD from Konkuk University. He is Professor of Korean Literature at Yonsei University, the oldest University in Korea. He has also been a visiting scholar at Harvard University.

At ANU Professor Jeon is teaching six Australian students Korean. 'These students are very keen to learn about Korean culture as the bridge between China and Japan.

Although it is well known in the West that Koreans invented the movable type before Gutenberg, it is less known that Korean sages Ajikki and Wangin took architecture, Buddhism, porcelain, literature and music to Japan in the fourth century,' he said.

In Kyoto, Japan, a shrine is dedicated to Wangin and he is worshipped as the father of culture and agricultural skills.

Professor Jeon said that famous Japanese pottery *satsuma* and *arita yaki* were all created by Koreans as the Japanese learnt their craft from Koreans.

'No matter how technically perfect Japanese pottery may be, it does not approach the beauty of Korean traditional ceramics.

'Japanese intellectuals admit their debt to Korea,' he said.

'In 1972 a 5th century tomb of the Japanese Emperor Takamatzu Zuka was found and frescoes in the tomb showed the women were wearing Korean dress.

'The dress and faces were similar to frescoes found at the Koguryo tomb in Korea at the same period. Similarly images of the smiling Buddha, royal crowns and roof tiles found in Korea appear later in Japan.'

Other aspects of Japan's debt to Korea are contained in Professor Jeon's book *Korean Traditional Culture and Japan* which is also translated into Japanese.

Returning to the Korean invention of moveable type Professor Jeon said that news of this invention may have spread to the West gradually. Europeans had the advan-

tage of having very small alphabets of only 24-26 letters which were easily adapted to moveable type whereas the Koreans used the Chinese characters which numbered more than 1000. The Korean alphabet *Hangul* was not invented until 1443, 200 years after moveable type. Modern *Hangul* has 24 letters and is not difficult to learn.

As modern South Korea has been preoccupied with post-war reconstruction only a minority of Koreans have had time to devote to the study of their cultural origins, he said.

The son of an essayist and a keen poet, Professor Jeon has read the works of several Australian poets while at ANU but has been most deeply impressed with Kath Walker's poem 'To my Son'.

Of the two *Sijo* poems he has written in Canberra, he said the sentiments came to him in Korean but he wrote them in English and asked a colleague in Asian studies to check them.

The *Sijo* poems are a traditional form of Korean poetry, a crystallisation of traditional emotions which originated in the Koryo Kingdom and bear similarities to later Japanese *Tanka* poems.

On the Lakeside

With the sun dark, and clouds rising
A wind is waiting to blow.

I sit down on the lawn
facing the spring sunshine
over Lake Burley-Griffin.

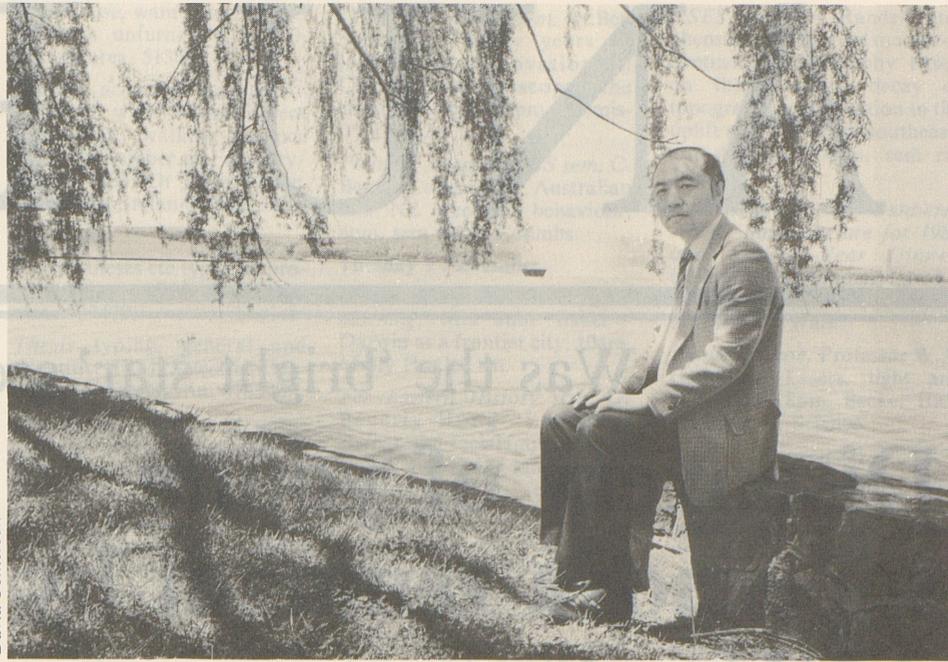
My view is limited to
One or two wattle trees
Standing beside the lake,
The jet of the Cook fountain spouting green heat.

The mysterious lines of the branches
In the north wind
Seem to shudder in a wider view
than mine.

I think of the Han river,
Now is the season of withering
Oh, what has been my hope?
I think, I realize it now
Here in Canberra.

It has been a yearning for growing
In a new whole vision
Like the October trees.

Jeon Kyu-tae



David Fetherston

Professor Jeon beside Lake Burley Griffin

Academic Staff meeting

The ANU Academic Staff Association has the lowest level of membership of all the organisations affiliated with the Federation of Australian Academic Staff Associations (FAUSA), according to the President, Dr Allan Martin.

Speaking at the Association's annual general meeting, Dr Martin said that only 43.5 per cent of the University's full-time academic staff were members of the Association. He said that FAUSA had urged all its affiliates to conduct a drive to increase membership levels, which were generally regarded as being 'deplorably low'.

Dr Martin said that at the ANU, the low membership level was no doubt partly explained by the relatively high proportion of non-tenured staff.

'However, it is a situation which concerns the Executive and we shall be trying to do something positive over the next year to improve membership numbers,' he said.

At present, the Association has some 500 members, many of whom attended the annual general meeting, on October 13.

Other issues discussed at the meeting included superannuation, the University's tutorial policy and the report on academic tenure conducted by the Senate Standing Committee on Education and the Arts.

The Association has a representative on a working party set up by the University as a fact-finding body to provide the Deans with information about the actual situation of tutorial staff in the various faculties and to set out the major issues affecting policy formulation in relation to tutorial appointments. The meeting was told that after some initial 'confusion', the working party was now operating effectively.

On the subject of the Senate inquiry, the following resolution was passed and will be forwarded to the executive of FAUSA: 'This Association endorses the declaration made by the Senate Standing Committee... that tenure appointment at the level of lecturer and above provides the security of employment which allows the freedom of inquiry so essential to academic work. It consequently views with serious concern the Committee's countervailing inclusion of financial exigency in its list of grounds acceptable for the termination of a tenured academic's appointment.'

The Academic Staff Association is open to all members of the University's academic staff. Anyone who wishes to join the Association or obtain further information about its role and functions can contact the secretary, Dr Chris Cunneen, RSSS, ext 2131.

Anne Woolliams University House Visiting Fellow

Miss Anne Woolliams, Dean of Dance at the Victorian College of the Arts, is to be Visiting Fellow at University House in 1983 for four weeks between 23 April and 28 May.

The Fellowship is designed to bring to the University a person of distinction whose presence would add significantly to the life of the University. The 1982 Visiting Fellow was Dr Earle Hackett.

Anne Woolliams, dancer, choreographer, and one of the world's most distinguished ballet teachers, began to learn dancing in Jerusalem at the age of five. She began her professional life with a Russian Opera and Ballet Company. In 1963 she was invited by John Cranko to join his now famous Stuttgart Ballet Company where she remained until Cranko's death in 1973.

In 1973, Anne Woolliams was invited to take over from Sir Robert Helpmann as Artistic Director of The Australian Ballet. Her first major productions were Cranko's choreography of 'Olegin' and the highly successful 'Romeo and Juliet'. Her 1977 production of the complete four-act 'Swan Lake' was widely acclaimed and in the following year she received the Australian Critics' Award for Dance.

Since 1978, Miss Woolliams has been in her present position with the Victorian College of the Arts. She is married to Jan Stripling, a former principal dancer with the Stuttgart Ballet. Together they hope to make Melbourne the teaching centre of Australian dance.



Miss Anne Woolliams

Gift of books to Library



David Fetherston

Australian poet and former University Fellow and Council member, Judith Wright McKinney, with Sir Keith Waller (left) and the Vice-Chancellor Professor Karmel after presenting a set of books *The Queensland Flora* by F. Manson Bailey, to the University Library.

Youth is attracted by lure of material goods

Teenagers in China are becoming disgruntled with the hardships of living in a relatively poor, developing country and are eagerly seeking material pleasures of the affluent industrialised world. They are keen to wear the latest fashions, have rediscovered romance and the girls have taken to makeup.

These are the impressions of Dr Beverley Hooper of the Contemporary China Centre who recently returned from China where she investigated the problem of youth. Her research was sponsored by the Australia-China Council.

In China she spent some time at the Institute of Youth and Juvenile Affairs. She also visited youth reform centres and prisons and witnessed several sessions at marriage bureaux.

She noticed a marked change this year from the situation in 1975-76 when she studied in Peking at the Peking Languages Institute and at Peking University.

'It has been commonly known in the West for the past decade that Chinese women have worn roughly the same drab and sexless clothing as the men. Just recently things have changed and many girls are appearing in bright coloured pants suits and high heeled shoes', she said.

Dr Hooper said the Chinese seemed to have 'fallen in love with love'.

'Although it is refreshing to see youth behaving naturally, this romantic trend has led girls to be seen out shopping with pink and orange plastic rollers in their hair, a sure sign they were going out on a date.

Dr Hooper said that young people in China were somewhat disillusioned with socialism and despaired for China's backwardness compared with the West.

'They ask if it is worth making the sacrifice to modernise China when it is so far behind the modern world already. Students are saying, "How can capitalism be so bad when people have so many comforts." With this discontent is an increasing desire among certain sections of the urban population to leave China.'

She suggested that this pro-materialism was the result of trips to China not so much by Western tourists as by Chinese from Hong Kong, who visited relatives and showed off their cassette recorders and other goods and painted a rosy picture of capitalism. Similarly there was an influx of magazines which showed the possessions typical of say a Japanese or western family.

Dr Hooper found that boys and girls were segregated at the youth reform centres and prisons she visited. The boys, who vastly outnumbered girls, were there for being truant from school, for forming gangs, for gambling, stealing and brawling. Many girls had committed 'sexual offences' which ranged from prostitution to simply being unfortunate enough to get pregnant. She thought prostitution was increasing because of the girls' demands for material goods.

During visits to marriage introduction services Dr Hooper found that Chinese girls were looking for partners with good prospects. They wanted their husbands to be taller, have a good income with career prospects, no dependent relatives and access to housing. Young men were seeking someone shorter than themselves with a good nature.

After watching one young couple—who seemed well suited—meet and chat, she spoke to the girl when the young man left. Far from finding him attractive the girl said he was awful and his hair was too long.

Only two out of the nine couples she observed wanted to meet again.



Foreign influences: a factory dance in Guangzhou.

At airports and other places young people told Dr Hooper that life in China was boring for young people and that the government didn't understand them.

'My impression is that many young people in China are disgruntled but they don't realise that overall they are much better off than

preceding generations. The Chinese Government faces a dilemma. It considers that China's openness to the outside world is essential for the country's development. Yet this openness exposes young people to a range of demands that cannot be fulfilled.'

Photos by Beverley Hooper

Baume praises plain English

The Minister for Education, Senator Peter Baume, has complimented ANU chemists and physicists for their efforts to get their colleagues to present the findings of their work to the public in an 'understandable form'.

Addressing a conference of The Australian Association for Research in Education at Griffith University, Brisbane, Senator Baume referred to speakers at the RACI and Physics Congresses at the ANU in August, who were quoted as having urged their fellow members to accept responsibility for clear communication.

'It is no secret that some research in the field of pedagogy in Australia is reported in documents that remain an impenetrable thicket, even to other learned professors and doctors,' Senator Baume said.

'The reference here is not to necessary technical terms, in the related discipline of psychology in particular, but to research reports that seem to be explicable solely to their originators.' He added:

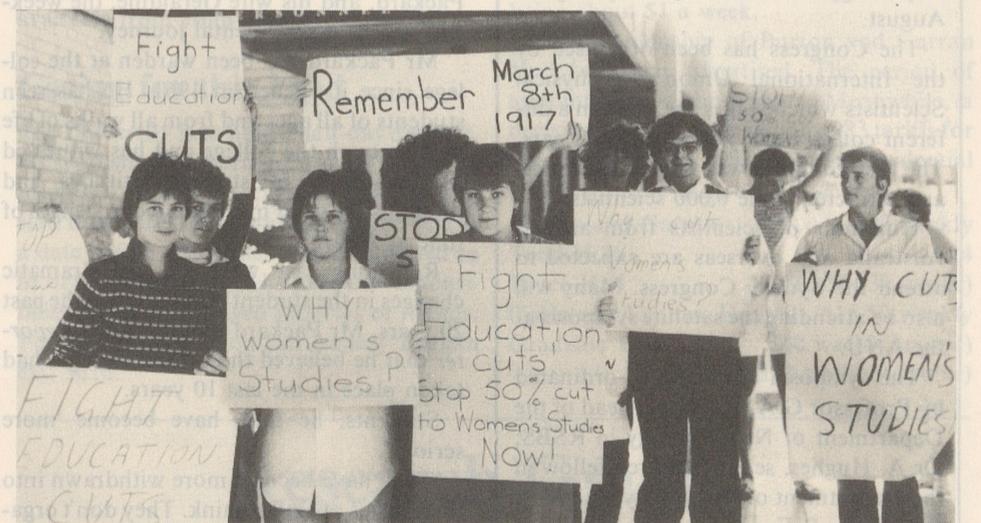
'In other related disciplines, such as history and philosophy no qualified researcher would contemplate delivering his results in anything other than exact, sharply considered, but always plain English.

'Sometimes, with important messages to convey to the Australian academic world, and to the general community, some researchers in pedagogy have done themselves and their colleagues less than justice.'

Senator Baume said that the efforts of scientists provided reason for 'good cheer' and showed that the problem of comprehensibility was not solely the problem of pedagogical researchers.

'Surely the hurdles for these natural scientists are higher?' he asked.

Women's Studies protest



About 50 undergraduate students staged a demonstration outside the Chancery last Thursday in protest against the University's decision to "freeze" several teaching appointments in The Faculties.

Many of the protesters were students of Women's Studies, in the Faculty of Arts, which they said had been hardest hit by the budget cuts, having lost one of its two full-time staff members.

A spokesman for the Students' Association, Mr Geoffrey Dalton, said there was 'no justification other than political for this cut.' He said the budget cuts had affected The Faculties broadly and the issue was not a 'personalised' one.

Another woman at the protest said that Women's Studies had maintained stable enrolments over the last six years in the face of constant threats to the security of teaching positions within the Department. She said the staff reduction would make the program 'unviable'.



Dave Paterson

Dr Beverley Hooper

'Whereas in the unisex era women achieved a sort of rugged equality their "progress to more feminine styles" seems a slightly backward step to us because instead of equality they are falling for the female "giggly role". They are shown in advertisements advocating pink and green shampoo. They are becoming obsessed with their looks and although they have gained some freedom they are being exploited commercially. Further, young women are indirectly getting the blame for the insatiable desire for material possessions which is sweeping China. 'When a young man was recently arrested for theft the authorities said he was led into debt trying to satisfy his girlfriend's desire for material goods.'



Registering at a marriage introduction service.

University geologists set up laboratory in China

A team from the ANU has established a sophisticated palaeomagnetic laboratory near the Ming Tombs, outside Peking, with \$10,000 from a scheme run by the Federal Government's foreign aid organisation, the Australian Development Assistance Bureau (ADAB).

Scientists from the University and from the Chinese Institute of Geomechanics, which is run by the Ministry of Geology, exchanged research visits over a period of two years before the laboratory was equipped and it was felt the Chinese researchers would be able to carry out the vast amount of work necessary to bridge the gap between the knowledge of geophysics of that very large land mass and other areas of the earth.

Dr Phillip McFadden, a Senior Research Fellow in the Research School of Earth Sciences, was one of a team of four from RSES who travelled to China in June for the completion of the laboratory.

He told the *ANU Reporter* last week that the advent of the Cultural Revolution in China coincided with a "complete revolution" in the earth sciences.

'About 40 years ago it was believed that the continents were fixed relative to the earth's surface. The concept of continents moving was first put forward by Alfred Wegener in 1920—but nobody believed him,' he said. 'There was no understanding of the physical processes by which you could move a continent around the earth.'

'Our understanding of the earth is now very different and we know that the continents are merely floating on the earth's surface and being dragged along by convection.'

Dr McFadden said that while a great deal was known about the movements of Australia, Europe, America, Africa and other parts of the world, little was known about China.

'Now, obviously, we want to bridge that gap.'

He said that the Chinese scientists were eager to make up for the lost time. 'In essence the Chinese want to get in and do this work for themselves.'

Dr McFadden said that unlike scientists from other developed nations which also have an interest in learning about the Chinese continent, the Australian team was prepared to co-operate on a basis of 'going in to teach, help produce the laboratory and set them up as a going concern.'

Dr Mike McElhinny, a former Senior Fellow with RSES and now Chief of the Geophysics Division, B.M.R., was the key person involved in the establishment of the new laboratory in China. In 1979, he contacted the Chinese Government with a view to starting a co-operative scheme.

Following that initial contact, Dr McElhinny and Dr Brian Embleton, also formerly with the ANU and now attached to the Mineral Physics Department of CSIRO, travelled to China to gauge the situation there.

'The Chinese invited them over to do some sampling, assess the local situation and see what was needed.'

'They returned accompanied by two Chinese scientists, a physicist and a geologist.'

One of the visiting researchers, Dr Ma Xinghua, is now running the laboratory at the Ming Tombs.



Pictured outside the new laboratory at the Ming Tombs are (l to r) Mrs Zhang, a geologist who spent a year at the ANU studying palaeomagnetism, Mr David Edwards, Mrs Joan Cowley, Dr Phillip McFadden, Ma Xingehau and Dr Mike McElhinny.

'They were here and also at the CSIRO working on samples which had been collected in China.'

Co-operation between the scientists from both countries was maintained until June this year when Dr McFadden, Dr McElhinny and two others from RSES, Mr Dave Edwards and Mrs Joan Cowley, travelled to China to wind up the equipping of the new laboratory.

Mr Edwards, a Senior Technical Officer at RSES, was responsible for overseeing the installation of equipment in the laboratory.

Dr McFadden described Mr Edwards as

being 'possibly number one in the world when it comes to running a palaeomagnetic laboratory'.

'Mrs Cowley was responsible for organisational aspects of the laboratory and I think it's safe to say that the whole operation went without a hitch.'

Dr McFadden said the Chinese laboratory was 'fairly comprehensive' although not as sophisticated as the one on the ANU campus.

'We are now looking forward to working in close contact with the Chinese scientists and enjoying the benefits of their research.'

Bruce Hall celebrates birthday

The brown-hued walls of the University's oldest residential college, Bruce Hall, will this weekend welcome back nearly 300 former students for celebrations marking its 21st birthday.

For the warden of Bruce Hall, Mr Bill Packard, and his wife Geraldine, the weekend will be a sentimental journey.

Mr Packard has been warden at the college since it opened in 1961. He has seen students of all ages and from all walks of life pass through the college and has witnessed the evolution of student attitudes and thoughts for what must be a record length of time at ANU.

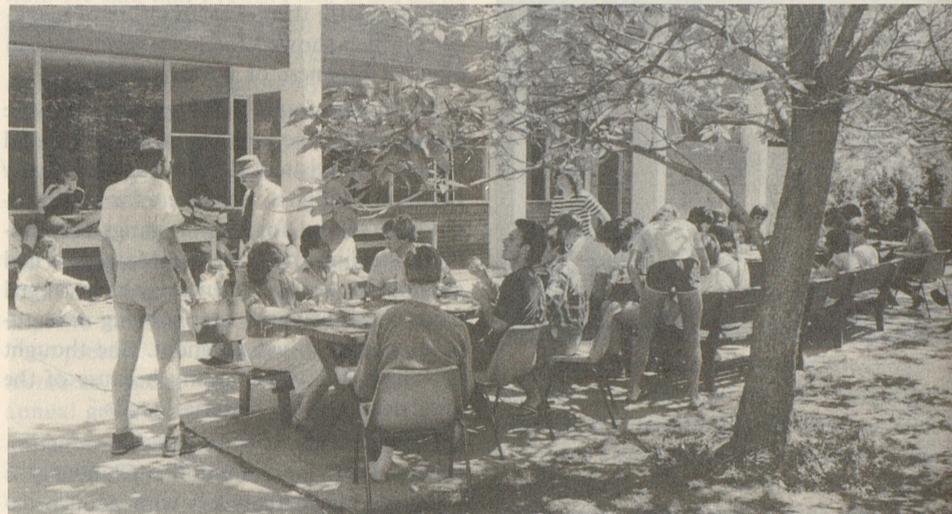
Reflecting last week on the dramatic changes in the student population in the past 20 years, Mr Packard told the *ANU Reporter* that he believed the biggest changes had taken place in the last 10 years.

Students, he said, have become 'more serious'.

'They have become more withdrawn into themselves overall, I think. They don't organise themselves into groups nearly as much as they used to. I believe one of the greatest death knells to the once famous past-time of student fun and games is continuous assessment.'

'They have become faced with an increasing amount of pressure to perform well and because of this, I think, they have become more and more conservative.'

Mr Packard said that the student body at the ANU reached its peak in radicalism in the early 1970's, up until about 1974. 'Things have tamed a lot since then,' he said.



1982 students at Bruce Hall enjoy lunch in the garden. The warden, Mr Bill Packard, is on the left with his back to the camera.

He said that while students appeared to have become more concerned with themselves and less concerned with outside issues, it must be considered that students in 1982 were given much less of what he called 'breathing space.'

'More than ever, students are doubtful that they want to be at University at all.'

'But the bright ones are just as bright. In fact, I think it's true to say that the great middle-mass of students, those who never did exceedingly well at university, are no longer here. Those who are at university, really want to study and that has to be a good thing.'

He said the biggest revolution had been in the social and sexual mores of students over the last decade.

'This is to the extent that young men and women are more relaxed and accepting with each other—not that they are any more or less promiscuous. I think they are more thoughtful with each other.'

Mr Packard believes the student population appeared to be finding it harder to 'make ends meet'.

'I mean, you don't see the student cars around that you used to and, I think, more

and more are finding it hard financially just maintaining themselves at university.'

Bruce Hall was named after Lord Bruce, the former Prime Minister, who was the University's first Chancellor. It was the country's first co-educational university college.

The celebrations get under way tonight with a common room gathering. The schedule highlight of the weekend is the formal Hall dinner on Saturday night. A prize is to be given to the person who is still most like his or her file photograph.

Other activities will include fun runs, an auction of the Hall's wine cellar, visits to the Civic 'watering holes', a paddle boat armada on Lake Burley Griffin, and 'rampage' through the National Gallery.

Satellite symposia at ANU

The University will host four separate satellite symposia next year as forerunners to the International Congress of Physiology to be held in Sydney in August.

The Congress has been organised by the International Union of Physical Scientists which stages the event in a different country every three or four years. The last congress was held in Budapest and attracted some 6,000 scientists.

Hundreds of scientists from around Australia and overseas are expected to attend the Sydney Congress. Many will also be attending the satellite symposia at the ANU.

The symposia are being co-ordinated by Professor G.A. Horridge, head of the Department of Neurobiology in RSBS; Dr A. Hughes, senior research fellow in the Department of Physiology, JCSMR; Professor R.F. Mark, head of the Department of Behavioural Biology, RSBS; and Professor R. Porter, director of JCSMR.

The forthcoming symposia are titled, respectively, *Biophysics of Sensory Processing*; *Vision in the Rabbit*; *Development Neurobiology*; and *Motor Control*.

The symposia organisers have scheduled a series of keynote speakers from Australia and overseas. The sessions commence on 21 August and conclude on 28 August.



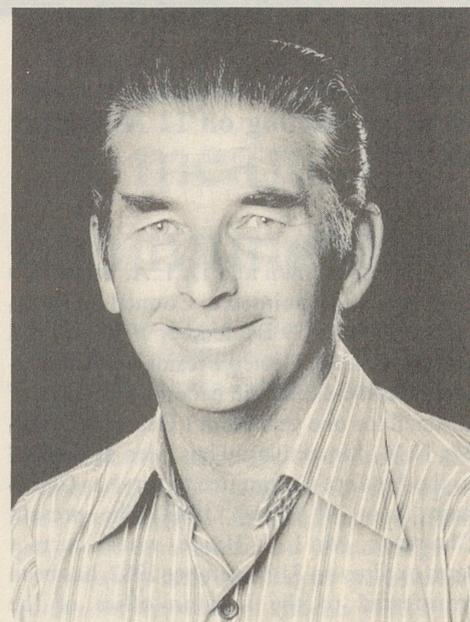
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ANU STUDENT EMPLOYMENT
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Among the many staff retiring at the end of the year after very long service to the University are Mr John Harrison, (left) Head Technical Officer in the Department of Nuclear Physics, RSPHYS, who has worked at the ANU for 25 years. Mrs J. Tarling (centre) came to ANU to 'fill in for six months' and stayed for 26 years, working as an accounting machinist in JCSMR. Mr J. Drent (right) is leaving after 25 years with Building and Grounds.

Solvation Conference

A two-day conference on Solvation, jointly sponsored by the University's Research School of Chemistry and the RACI Division of Physical Chemistry will be held at the RSC from 20-22 February.

The meeting will bring together inorganic, organic, physical and theoretical chemists interested in the role of solvent structure and dynamics in chemistry. The Solvation conference immediately follows the Fifth Australian Summer School in Theoretical Chemistry which is being held at the same venue. Registrations should be in by 3 December. For further information contact Dr Elsum RSC ext. 3254.

Processed foods

If you're interested in the awful truth about processed foods you might like to read a printed booklet just launched by the Minister for Health *Processed Food: a Pain in the Belly*. The booklet was originally presented as a paper in the Chemistry Section of ANZAAS, organised by Dr Ben Selinger of the University's Chemistry Faculty. Dr Selinger is also a Council member of the Australian Consumers' Association which is responsible for the publication of the paper in its printed form. In the booklet you can find out that labels can be deceptive and additives—in which processed food abounds—are indeed, positively harmful. Did you know for instance that some baby rusks contain 38% sugar and that even "natural, non-fat and unflavoured yoghurt" can contain up to 12%?

Fullbright Scholar

Dr Susan Bambrick, Senior Lecturer in Economics, has just commenced a four-month stay in the United States as Fulbright Scholar-in-Residence at the University of Pennsylvania's Centre for Australian Studies. She is working in the Department of Mineral Economics in the College of Earth and Mineral Sciences.

Conference on USSR

The death of President Brezhnev provided a topical impetus for a major conference on the Soviet Union at the ANU last week and in particular to a keynote paper by Dr T.F. Rigby *The Soviet Social and Political System as it enters a period of leadership change*.

Over 150 people attended the conference, *The Other Superpower: The Soviet Union Today*, which was organised by the ANU Centre for Continuing Education in conjunction with the University's Political Science Department, RSSS, the Slavonic Languages Department, Arts, and the Committee on Soviet and East European Studies.

Other keynote papers were given by Professor Eugene Kamenka, History of Ideas Unit, RSSS, and Mr John Rowland, former Australian Ambassador to the Soviet Union. Mr Rowland, who has recently finished a term as Australian Ambassador in Paris, is a Visiting Fellow in RSSS.

Ethnobotany

The University is to establish a professorial fellowship in Ethnobotany in the Department of Prehistory in the Research School of Pacific Studies.

The provision of a tenured position will enable the University to continue to interact closely with the more general archeological research of the Department being carried out in Australian and Melanesia following the expiry of Dr D.E. Yen's three-year professorial fellowship in Ethnobotany in 1983.

Archaeology Fellowships

Queensland's Department of Aboriginal and Islanders Advancement is offering two Fellowships to students commencing post-graduate studies on an aspect of archaeology within the State of Queensland.

The Fellowships are open to students from any Australian university and will each provide \$7,500 per annum. Preference will be given to full-time MA students or PhD students nearing completion of their research. Students undertaking their Honours year will also be considered and will receive \$4,000 per annum.

An integral part of the Fellowship program will involve work experience in Cultural Resource Management under the supervision of officers of the Department's Archaeology Branch.

Successful applicants will be selected by the Department in consultation with relevant University personnel. For more information contact The Director, Department of Aboriginal and Islanders Advancement, P.O. Box 133, North Quay, Queensland 4000.

Exam results

In response to student proposals, names of candidates in recent examinations will not appear on the results lists to be posted on 3 December. Instead, student numbers, in ascending order, will appear under Course headings. In addition, performance analyses for each subject or unit will be posted with details of the grades achieved, including failures.

Anutech winner

Professor Jack Golson, head of Prehistory, RSPacS, is the winner of the New Name of Anutech competition. His winning entry *ANUVENTURE* is being tested by the Anutech Board for general acceptability. Comments are welcome and should be addressed to John Morphet, Anutech Secretary 493811.

Communication in the Workplace

Applications are invited for a 'Communications in the Workplace' program being held on 9 and 10 of December. The program will focus on listening skills, handling conflict and emotion, and assertiveness. Numbers are limited to seven and will be allocated on the basis of one staff member per area. Applications close 1 December. More information from Community Affairs ext 4593.

First Aid Course

The next St John Ambulance first aid certificate course will start on 9 February 1983. The course, comprised of 12 consecutive two hour sessions each Wednesday between 10.30 and 12.30, will be held in the Ross Hohen Room, Chancery.

The ANU Fire and Safety Officer, Mr K.C. Acker, points out that first aid certificates are valid only for three years and staff members whose certificates were obtained prior to February 1980 will need to re-qualify.

Staff members wishing to join the 1983 course must first clear attendance with their head of department before enrolling. Intending applicants should notify Mr Acker in writing no later than 17 December.

AAOA Dinner

The Administrative and Allied Officers Association are having their Annual Dinner at the Canberra Parkroyal on Wednesday, December 1 at 8pm. Guest speaker will be Mr Barry Jones, MP, Shadow Minister for Science and Technology. Special guests will be the Chancellor Professor Sir John Crawford and Mrs Crawford. Staff who are not yet AAOA members can attend the Dance. Invitations at \$18 per head are available from John Blackley or Joe Bice.

Caring for the Aged

The University is to hold a half-day discussion/workshop on caring for aged people in response to interest expressed by several staff members. The workshop will be held at a date before Christmas and is expected to be of interest to those who have the responsibility of caring for aged relatives or friends. For more information call Audrey Dargan ext. 3616.

A new name and new tariff for merged halls

The future name of the soon-to-be-merged Burton and Garran Halls has been decided. From 1983, they will be known as Burton and Garran Hall.

The decision to merge the halls and convert them to 'self-cook' was announced after the September Council meeting.

Extensive discussions have been carried out with hall authorities regarding the staffing structures, which in 1983 will decrease in numbers by seven. It is expected that each person for whom the University has a responsibility will be found appropriate jobs within the University.

The cost of 10 new kitchens, necessary under the new 'self-cook' arrangements will be amortised through student tariffs over a period of 10 years—the cost to the student being about \$1 a week.

The Wardenship of Burton and Garran Hall has been advertised. The period of appointment is three years. Meanwhile, a decision has been reached on 1983 tariffs for the new Hall, as well as other residential colleges on the campus. These are:

Burton and Garran	\$25 weekly
Toad Hall	\$24
Bruce Hall	\$2,260.50 (33 weeks)
Corin and Lennox Houses	\$15.50 weekly
Graduate House	\$40 weekly (single)
	\$52 weekly (double)

Research Grants

Recent grants of \$5,000 or more allocated to ANU staff:

Department of Science and Technology—Dr A.R. Chivas, RSES and Dr J.M.A. Chappell, Biogeography and Geomorphology, RSPacS: further support of a stable-isotope study of paleoclimate and environmental geochemistry of the Great Barrier Reef—\$23,457. Dr W.L. Nicholas and Dr C. Bryant, Zoology, Science: further support of work on anaerobic metabolism and the survival of intertidal meiofauna in

mangroves—\$16,110. Dr R.E. Summons and Professor C.B. Osmond, Environmental Biology, RSBS: further support of work on the biochemical ecology of algae-invertebrate associations of the Great Barrier Reef—\$13,500. Dr T. Torgersen, Dr A.R. Chivas and Dr W.J. Ullman, RSES: further support of work on the environmental geochemistry and climatic response of sediment and coral, 10-20°S—\$22,070.

Friendly Societies of Australia—Dr D.G. Green, Urban Research

Unit, RSSS: further support for a study of the place of friendly societies in Australia—\$8,000.

The Population Council—Professor J.C. Caldwell, Demography, RSSS: to support work on the origins of fertility decline.

Department of Foreign Affairs—Task Force on Trade in Minerals, RSPacS: a contribution in 1982-3 towards preparation by the Task Force for a conference to be held in Jakarta in 1983 as part of the Pacific Community Concept—\$75,741.

Among matters discussed by Council at its meeting on 12 November were:

Membership

Dr N.K. Boardman and Dr L.A. Broadribb have been re-appointed to Council for further terms until 29 September 1985. Mr Bill Redpath, newly elected President of the Student's Association, will become a member of Council for one year from 1 December 1982. Mr N.M. Macphillamy has been appointed to the Finance Committee to serve as Chairman from 10 March 1983. The present Chairman, Mr L.T. Hinde, whose current term expires on 31 December 1982, has been transferred to the London office of the Reserve Bank of Australia for 12 months. Mr Brooks C. Wilson, has resigned in order to take up an appointment as a part-time Commissioner of the Commonwealth Tertiary Education Commission. Council recorded its appreciation to Mr Wilson for his services. Council approved the appointment of Mr Phillip Walker as a student member of the General Services Fee Advisory Committee to succeed Mr J.D.A. Buchanan, who ceased to be a member of Council on 29 September 1982.

BIAS Chairman

Professor L.W. Nichol has been reappointed as Chairman of the Board of the Institute of Advanced Studies for a further period of two years from 14 November 1982. Professor Nichol is Head of the Department of Physical Biochemistry in the John Curtin School of Medical Research at the ANU.



Professor Nichol

Fine Art Scholarship

Council approved the establishment of a travelling scholarship, to be known as the Janet Wilkie Memorial Scholarship, to enable ANU students to continue their Fine Art study overseas. The award will be made to a student who has attained the most distinction in the final year of an honours course in Fine Art. The value of the scholarship, which should be for a minimum period of three months, is between \$2,500 and \$3,000.

Native animal area

An area west of Burgmann College, bounded by Clunies Ross Street and Sullivan's Creek, is to be set aside as a holding area for native wild animals and will be shared by the Departments of Zoology, Faculty of Science and Behavioural Biology, Research School of Biological Sciences.

The purpose for the enclosure is to provide natural surroundings in which a small number of native species can be kept for experiments and observation. It will not be

used for housing normal laboratory animals nor for keeping large numbers of native animals.

The particular use of the area will be to study the relationship of native animals and birds to natural surroundings in matters such as nest sites, parental care, grazing strategies, temperature regulation and so on. The area will provide a unique facility for the University.

Extensions to buildings

Council approved plans for a number of extensions to existing buildings on the University campus, namely an extension to the Law Library within the Law Buildings, an extension to the Hanna Neumann Building and an extension to the Seminar Room in the Research School of Biological Sciences.

Graduate Scholarship stipends

The annual stipend for ANU postgraduate scholars is to be increased from \$4900 to \$6173 with effect from 1 January 1983. Other allowances payable to these scholars are to remain unchanged.

Geoffrey Rossiter Room

The University has decided to mark the contribution to the University by Geoffrey Rossiter, Foundation Warden of Burton Hall, by naming the students' common room after him.

Honorary Degree

An honorary degree is to be conferred on Mrs Joan Meredith Lynravn on the grounds of her outstanding service to scholarship. Mrs Lynravn, who will be admitted to the degree of Master of Arts *honoris causa*. Mrs Lynravn was a research assistant in the Department of History, RSSS, for many years.

Ceremonial Officers

Professor R.W.V. Elliott, Master of University House, has been reappointed University Marshal for 1983. Dr W.A. Krebs, Warden of Burton Hall and Lecturer in English, Arts, has been appointed Esquire Bedell for 1983. He takes over from Mr Bill Packard, who has been Esquire Bedell for the past five years.

TEAS for combined degrees

The Department of Education has advised the University that a review which it was conducting into criteria for TEAS in relation to combined courses had lapsed but that it is now contemplating a further review. In the meantime, the particular situation of the combined course in Science/Economics at the ANU had been considered by the present Minister and his predecessor and the decision not to approve the course had not been changed.

Assistance to Government

The Vice-Chancellor has approved the following arrangements:

Dr D.J. Carpenter, Research Fellow, in the Department of Engineering Physics, Research School of Physical Sciences, to accept the invitation from the Minister for Science and Technology to be a member of an ad hoc working group established by the Australian Marine Sciences and Technologies Advisory Committee to examine marine applications to satellite sensing.

Professor R. Johnson, Head of the Department of Classics in the Faculty of Arts, to accept the invitation from the Commonwealth Tertiary Education Commission to undertake an investigation of certain aspects of the provision of external studies in higher education.

Professor D.R. Howlett, Head of the Department of Geography in the Faculty of Arts, to accept appointment to the National Commission for UNESCO for two years from October 1982.

Dr H. Rosenberg, Senior Fellow in the Department of Biochemistry, John Curtin School of Medical Research, to accept the invitation from the Minister for Health to serve a second three year term from 22 July 1982 on the Therapeutic Goods Committee.

Professor P.C. Doherty, Head of the Department of Experimental Pathology, John Curtin School of Medical Research, to accept an invitation to serve on the Scientific Advisory Committee for the International Laboratory for Research in Animal Diseases (ILRAD), Nairobi, Kenya.

Headships

Professor E.J. Hannan has been appointed to succeed Professor P.A.P. Moran, as

Head of the Department of Statistics in the Research School of Social Sciences for two years from 1 January 1983. Professor Moran is retiring from the staff of the University on 31 December 1982.

Professor R.M. Keesing, whose current five year term as Head of the Department of Anthropology in the Research School of Social Sciences expires on 31 January 1983, has been reappointed for a further five year term from 1 February 1983.

Superannuation

Council noted that the Superannuation Scheme for Australian Universities (SSAU) had not yet received government recognition and that the SSAU Trustee had advised that it would be unlikely that universities with members of staff wishing to transfer to the new scheme would be able to do so before May 1983.

A lifetime of statistics

Professor Patrick Moran has enjoyed his thirty years as Professor of Statistics at ANU as it has enabled him to interest himself in a range of subjects besides the social sciences.

Professor Moran, retiring at the end of this year, has gained distinction for his work on geometric probability, statistical theory and the mathematics of evolution.

'Being a professor of statistics does not mean that I have been involved with the gathering of statistics in the way the Commonwealth Department of Statistics does its work.

'My job has not been to count things but to develop new theories and ideas to back them up by describing phenomena statistically.'

He said that he set out to be a mathematician 'but it was too difficult' so he became a theoretical statistician.

Known as a master of throw-away lines and under-stated humour, Professor Moran said he was glad he was not entering a career in statistics now. 'It's a vast science now, quiet beyond anyone's grasp', he said.

'It is a twentieth century discipline, it really took off in the thirties when there was a need for statistical methods in agricultural experiments. In 1945, when I was Australian Science Liaison Officer in London there was only one Chair of Statistics in Britain, now there are eighty.'

He said that Australia had a good international reputation for statistics based on the work of Professors Pitman, Lancaster and Cornish and others. Typically he does not reveal that he is the only one to be honoured by being a Fellow of the Royal Society.

Although best known for his works including *The Theory of Storage*, the *Random processes of Evolutionary Theory* and *Theory of Probability* he has particularly enjoyed working with colleagues in the John Curtin School of Medical Research on the statistics of viruses.

While working with a virologist he built a theoretical model of the virus and its interaction with antibodies which inhibit virus activity.

Like many academics he has been a periodic sufferer from depression, and this led him into statistical work in psychiatry.

The son of a Sydney doctor, Professor Moran was educated at St Stanislaus College in Bathurst. At Sydney University he gained a DSc in Maths and followed that with a ScD from Cambridge. Before being appointed to ANU he served as a Lecturer in



Professor Moran

Maths at Oxford and was a senior officer at the Oxford Institute of Statistics.

In 1952 at the age of 34, as a newly appointed Professor in RSSS, he arrived at the recently founded ANU and joined colleagues such as demographer, Professor Mick Borrie, in the Old Hospital Building on site.

'They were enjoyable days as Canberra's population was only 22,000 and we all knew one another. ANU is now so big there are several professors I've never even seen.

'Professor Oskar Spate and Geoffrey Sawyer wrote a large quantity of bright verse which they recited on various occasions. Called the Acton School of Verse, it would be good if their works could be brought together,' he said.

Apart from his academic work, Professor Moran has been an avid worker for the University Library assisting staff to build up their maths collection in particular.

A keen book collector he is disappointed that more academics don't concern themselves with assisting the University Library through donations and guiding its collection policies.

Although officially situated in the RSSS, Professor Moran has had his office for the last decade in the Mathematics Building of RSPHysS, overlooking the lake.

There will be no retirement for Professor Moran as the Social Psychiatry Research Unit under Dr Scott Henderson have asked him to join them next year. He will work on a statistical analysis of the data they obtain from a Canberra survey.

'They will use me as a test vessel', he quipped.

Population growth and economic development in Malaysia today

by Anne Booth

Cheong Kee Cheok and Lim Lin Lean: *Demographic Impact on Socio-economic Development: The Malaysian Experience*, Canberra: ANU Development Studies Centre. Monograph No. 29. \$10.

What is the effect of rapid population growth on a country's economic development? The experts, from Malthus's day to our own, have never been able to agree on the answer to this question. Malthus's famous *Essay on Population* provoked many critiques during the 19th century, and in our own day Colin Clark, Ester Boserup and

Julian Simon have all challenged the belief that rapid population growth necessarily impedes long run economic development. This monograph tackles the issue in the context of Malaysia, a small land-abundant Asian country which has achieved rapid economic growth since independence in spite of having one of the highest rates of population growth in Asia. Indeed at the time of independence the main demographic problem perceived by political leaders in Malaysia was not the overall growth of population at all. Rather it was the racial division of the country into rural Malays mainly engaged in subsistence agriculture and urban Chinese, mainly engaged in industry and commerce.

However, as the authors, two academic economists at the University of Malaya, make clear, successive Malaysian governments have shown a more sophisticated awareness of the demographic dimensions of development and this awareness has been reflected in the two most recent national plans. Rapid population growth and even more rapidly rising expectations have meant that government has had to assume an increasingly important role in providing educational and health facilities, housing, electricity, drinking water and other types of

infrastructure. 'Both the size and structure of the population have direct consequences for the magnitude of government expenditure' (p. 101). However, in spite of the growth of budgetary resources devoted to the provision of basic needs, there are still marked variations in provision of most facilities between regions and between urban and rural areas.

Since the implementation of the New Economic Policy in 1970, many rural Malays have migrated to the cities, and increasingly rural employers have sought to import cheap workers from the vast labour reservoir of neighbouring Indonesia, a policy understandably unpopular with the local workforce. Probably the main socio-economic problem facing the Malaysian government today is how to continue to improve real standards of living without threatening the existence of the country's major rural industries, such as natural rubber, which need an assured supply of low-wage labour in order to compete with production from Thailand, Indonesia and other parts of the developing world.

Dr Booth is a Research Fellow in the Department of Economics, Research School of Pacific Studies, ANU.

Intensive language courses

Enrolments are now being taken for the annual intensive summer language courses offered by the University and the Canberra College of Advanced Education.

The courses are co-ordinated by the University's Centre for Continuing Education and the languages offered this summer are, at the elementary level, Arabic, Cantonese, Chinese (Mandarin), Japanese, Spanish and Vietnamese, and at the intermediate level, Japanese.

The courses will be conducted from Monday, 3 January, to Friday, 28 January. However, a two week extension of the Chinese, Spanish and Arabic courses will also be offered.

Entry to the summer language program requires no previous knowledge of any particular language nor any particular academic qualification. For the Japanese intermediate course, however, students must have completed an intensive course at some other stage.

The summer courses are open to anyone. Over the last 15 summers people of all ages and from all walk of life have undertaken the courses for a variety of reasons: for travel, business, academic or professional needs, to revise or improve a language already learnt, or simply for the challenge of mastering a new language.

The courses are extremely demanding. Participants are required to attend five and a half days a week, as well as to study, revise and do extra work in their spare time.

The fee for the four week course, which includes all tuition, course materials and text books as well as daily material in a language laboratory, is \$450. The two week extension courses cost an additional \$225.

The deposit of \$100 must be paid by 1 December, when enrolments close. The full fee must be paid by 14 December.

Further information about the intensive summer language courses can be obtained by writing to the Co-ordinator, Summer Languages, CCE, ANU, PO Box 4, Canberra, 2600, or by phone 49 2662, 49 2892.

A look at country town Aborigines

by D. H. Penny

E. A. Young and E. K. Fisk (eds), 'Town Populations', volume 2 in the series *The Aboriginal Component in the Australian Economy* (Development Studies Centre, 1982, pp. 171+xv).

Carnarvon is about half way up the coast of Western Australia, Alice Springs is in the Centre, and Robinvale is on the River Murray in Victoria, not far from Mildura. All three towns have substantial Aboriginal populations, as do the New South Wales country towns that Elspeth Young has surveyed in the first of the four essays in this interesting and thought-provoking monograph.

The Aboriginal population of Australia is much more equally distributed throughout the country than the non-Aboriginal population. The economic activities and situations of Aborigines, however, are very much less well-known than those of the non-Aborigines.

Carnarvon is a long way from Perth and other major centres of population. Hans Dagmar has shown that Aboriginal unemployment is about 60 per cent and that job opportunities are declining, that they are very poor compared with the general community, and substantially dependent on social service payments for the money they need, and that most of them like to be able to go out of town to get bush tucker.

He also shows that there has been a substantial improvement in the housing situation for Aborigines in recent years (although some still live in humpies), and that they have welcomed the support they have obtained from the government for their organisations.

Alice Springs is also a long way from major centres of population. Drakakis-Smith's general account of the economic

situation there shows that it is very similar to what Dagmar found in Carnarvon. Robinvale is closer to major centres, but it is clear from Bryant's account that the Aborigines of Robinvale are in very much the same economic boat, as are the Aborigines in the NSW country towns. Robinvale is the only one of the four places where there were no fringe dwellers.

The economic problems seem to be pretty much the same everywhere, which suggests that the forces which serve to determine those situations must be both powerful and pervasive. But life goes on—people do get out into the bush to hunt or for religious purposes. Young shows that even in NSW 30 per cent of the people surveyed knew the name of their tribal group and as many as 51 per cent knew where their special 'country' was. Bryant talks of the pleasure many Aborigines seem to get from knowing and using words that *gubs* (whites) won't understand.

All the essays show something of the pride that people have from being Aboriginal and the pleasure they get from winning the occasional battle.

It's also very clear that the economic futures of Aborigines in country towns are likely to be cloudy for some time to come.

The essays are good science: the facts are sound and useful, even comprehensive. Better still, the essays are well-written and easy to read. My only regret is that Fisk found it so difficult to persuade economists to do the job: Young, Bryant and Drakakis-Smith are geographers and Dagmar is an anthropologist.

Dr Penny is a Visiting Fellow in the Development Studies Centre who was Director of Research in the Commonwealth Department of Aboriginal Affairs at the time this research project was initiated.

Language as a means of communication

Where Have all the Adjectives Gone? and Other Essays in Semantics and Syntax, by R. M. W. Dixon (Mouton, Germany, 1982)

This collection of essays by Professor Bob Dixon, of the ANU Department of Linguistics, Arts, explores the main function of language: the communication of meaning.

The essays take meaning as their starting point—for the study of systems of folk taxonomy and grammatical gender, for comparison of word classes across languages, and for explanation of the semantic basis of grammatical categories.

Priority is assigned to semantics in the theoretical position from which the essays are written. The author's approach has been consistently to start with semantically defined classes, and then to investigate their mapping on to grammatical categories. He shows that only in this way can a clear picture of the link between semantics and grammar be perceived.

The title paper is a cross-linguistic comparison of word classes with particular attention to adjectives. Study of the speech of the special 'mother-in-law' speech style of Australian Aborigines suggests an important theoretical distinction between 'nuclear' and 'non-nuclear' verbs which could be the basis for a general theory of semantic description.

A group of four chapters describes and contrasts the types of noun classes (gender systems) found in languages of the world, and the kinds of nominal classification (including numeral classifiers). Although these two types of phenomena have different formal properties, they are shown to fulfil similar semantic roles.

The theoretical discussion is exemplified by reference to more than one hundred distinct languages from a wide range of diverse language families.

One of the essays in the collection was written especially for the volume and the others, although originally appearing in linguistics journals, have been considerably revised and rewritten for book publication.

ANU Press has a new Manager

Mr Don Bradmore has been appointed manager of ANU Press following the appointment of Mr Chris Makepeace as director of the newly established Division of Publishing and Printing. Mr Bradmore took up his new position last week.

Before joining the University, Mr Bradmore was a lecturer in English at RMIT in Melbourne. However, he has had a long association with the printing and publishing industry. For eight years he worked for the American publishing giant, Prentice-Hall, with its Australian subsidiary, first based in Melbourne as the company's Victorian manager and then in Sydney as the national marketing manager. After that he was manager of the University of Queensland Press, based in Brisbane.

Classified

Advertisements are restricted to staff and students of the University and members of Convocation and to 20 words each. They should be sent in writing or delivered to ANU Reporter, University Information. The envelopes should be marked 'Advertisement'. No advertisements can be accepted over the telephone. The closing date for the next issue is 5pm Wednesday 1 December. Inquiries 2229.

For Sales

Corolla, 1971, sedan, manual, tan, gd cond, rego July 83, \$1100, Prof Jeon, rm 202 Asian Studies, 3192/Garran Hall.

Datsun 180B, auto, 1976, 4-door, rego July, runs well, owner going overseas, a real bargain at \$2950, 4449bh/821522ah.

Datsun 180B, immaculate, first registered in Jan 1975, \$2990, 822746ah.

Datsun 200B, wagon, 1978, fully imported, 4-speed manual, rego Sept, radio, towbar, vg cond, owner going overseas, \$5200ono, 3239/816907ah.

Morris 1100, rego Dec 1982, passed rego, new tyres, gd cond, \$650ono, 3714/953792.

Renault 16TS, 1971, urgent, rego Jan, vg mechanical order, some minor body damage, \$750ono, 487564.

Suzuki Sierra, 1982 model, hardtop, extras, \$5500 negotiable, Dave, 2771/512271ah.

Torana LC, 1971, 11mths rego, overhauled engine (Nov), 4 new tyres, new clutch, \$1000, 881111 ext 220/951357.

Torana TA 1300, 1974, exc cond, low mileage, rego Feb, \$1700ono, 4618bh.

Valiant, 1970, gd cond, rego Jan, \$900, fan heater, thermostat control, \$20, Laposa, 4122.

VW Beetle, 1973, 1300 eng, rego May 1983, 78,000 miles, exc working order, \$2000ono, 469974bh/479661ah.

Baby seat for bike, \$10, 4250.

Bicycle, lady's, full size, lock and chain, large basket, 2yrs old, gd cond, \$70ono, 480780.

Bike, Dragster, gears, white-wall tyres, gold colour, suit 9yr old, \$45, 733246ah.

Clothes dryer, GE, 15amp, very large capacity, American type, new \$375, 2½yrs old, \$200, 881111 ext 220/951357.

Cot, fold up, portable, canvas, \$36; *car seat*, safe T. Rider, \$25, ex cond, 951439ah.

Curtains, 2 sets, suitable doors/windows, \$100, 3394/543421ah.

Desk, 3'6"x2'6", solid metal frame with wooden boarder on a newly covered top, adjustable legs, \$45ono, 811582.

Dining chairs, 4 matching Victorian, \$1000, 888917ah.

Lawnmovers, offers are invited for the purchase of five used ANU gardeners mowers, 2260.

Lounge chairs (2), modern design, zip covers, best offer, 2745bh.

Motorscooter, Honda 90cc, gd cond, \$350ono, 587904.

Piano, Broadwood upright (English imported), rich tone, fine cond, owner leaving country, \$1200ono, 3239/816907ah.

Pram, Steelcraft, new cond, \$80ono, Rod Napper, 2612/972618ah.

Pup, curly-coated retriever, male, registered, immunised, 11 weeks old, 2388/547496.

Radio/cassette recorder, Sanyo 8500, 3-band, perfect cond, 8 months old, \$25ono, 4260.

Road/Trail Bike, Yamaha DT 100, go cond, rego Jan, cheap transport, \$275ono, 4173/816190.

Silk jacket, men's cream, raw silk, 38 reg, cost \$245, worn once, sell for \$200; *opal pendants*, two, one gold-plated, one rhodium-plated, cost \$59 each duty-free, sell for \$50 each, 3760/976742.

Stereo, HMV '8+8', with matching teak stand in as new condition, \$150ono, Rod, 2771.

Stereo, Pye radiogram MR661, speakers, \$100, 512889ah.

Stove, Metters wall oven and hot plates, \$100, 3394/543421ah.

Wool, black and white, for hand-spinning, 2238/350139.

Accommodation Available

Cottage, Tuross, water frontage, quiet bush setting, sleeps six, comfortable, fully equipped, avail until 17 Dec, than February onwards, 951993ah.

Holiday accommodation, Batehaven, comfortable, colour TV, stereo, for holidays, 5-23 December, 10-16 January, by week or shorter periods, close to every-thing, sleep 4-6, 950197.

House, Ainslie, 2 bdrms plus study, ff, garden, 1 Dec to mid-to late-Jan, 485142.

House, Belconnen, 2 bdrm, unfur, 2 bathrooms, separate garage, courtyard, available for six months from mid-March, 585562ah.

House, Braddon, female to share 2 bdrm with female owner, non-smoker, from 12 Dec, \$40/week, 469876bh/497723ah.

House, Dickson, 3 bedrms, ff, 15 Dec to 3 Feb, washing machine, dryer, colour TV, telephone, \$85/week, 832242bh/473293ah.

House, in England, modern, ff, Jan-Sept 1983, riverside village near Uni of Essex, direct train (1 hour) to London, R. Goodin, 3342/821038.

Room, for mature sharer, very comfortable, large house in quiet area close to bus, secluded garden, non-smoker preferred, 863205ah.

Room, unfurn, in delightful cottage in inner north available end of Nov approx, \$30/week, non-smoker preferred, 489149.

Accommodation Wanted

Flat/house required for 15 January to 15 April 1983, approximately, for visiting academic, no children or pets, 049-685779bh/049-547043ah.

House, responsible couple willing to look after house from mid-Jan, keen on gardening and pets, references, 465552/822693.

House/flat, 2/3 bedrms for visiting academic, wife & 11yr son, from 6 Dec to 28 Feb, 2467.

House/flat, share accommodation wanted, inner north or inner south preferred, Raeann, 4172/3070/498837ah.

Secretarial

Essays, assignments and theses expertly typed on computer, Jenny Tode, 4300.

Essays, theses, etc typed by professional, on IBM, Belconnen area, also available Xmas/New Year, 583409.

Typing, IBM golfball, best rates in town, pick up and drop-off service for ANU, exp ex-ANU secretary, same day service available, 515985.

Typing, secretarial and photocopying service, high quality work, scientific or general, v reas rates, typist available summer holiday period, 957976.

Typing, theses, essays, etc, on IBM Selectric golfball, extremely reas rates for expert work, 474402ah.

Typing, theses, essays, reports, IBM Selectric, reas rates, ANU pick up, 547659.

Wordprocessing at student rates, pick up and drop-off service for ANU, exp on all ANU formats, 515985.

Miscellaneous

Children's cooking classes, summer series, 3-7 Jan, 24-28 Jan, 10.30am to 1pm, 5 lessons, \$42, limited numbers, 543184ah.

House exchange, Patricia Vinicombe wishes to exchange house in Perth for one in Canberra from 8 Dec to 30 Jan 1983, phone Perth 2799205 or Canberra 493039.

Lift to Brisbane, anytime after 17 Dec, will share costs, 3757.

Light aircraft flight to Adelaide, share costs, \$150 per person return, depart Canberra 23 Dec return 2 Jan, 2 seats available, 413865.

Picture framing, professional results at reasonable prices, call Ian on 2205/813721 anytime.

Wanted, copy of Hall and Bartoli 'Conversational Italian', Leila, 2442/732476ah.

Wanted, Fowler jars for bottling, 888917ah.

Wanted, someone flying to Perth close to Christmas prepared to accompany 7yr old, Margot, 436262bh/514849ah.

Diary

Diary entries for the next issue close at 5pm on Wednesday 1 December and are for the period Monday 13 December to Wednesday 29 December (inclusive). Please assist us by submitting ALL Diary entries on forms available from Information, 2229.

Monday 29 November

Urban Research Unit sem, Dr Stuart Macintyre, Community v depression: Britain and Australia in the 1930s, 2pm, sem rm D Coombs.

Political Science RSSS sem, A Walicki—The controversy between the Russian populists and Russian marxists, 4pm, sem rm D Coombs.

Tuesday 30 November

Biogeography and Geomorphology sem, N.M. Wace—Climates and vegetation in islands of the Southern Ocean, ca 40° to 55°S; an attempt to define the 'sub-Antarctic zone', 10.30am, sem rm B Coombs.

Far Eastern History sem, Dr Helen Dunstan—A preliminary study of Ch'ing monetary policy 1644-1800, 11am, sem rm E Coombs.

Philosophy RSSS sem, Prof J.C. Harsanyi—Mathematics, the empirical facts and logical necessity (part 2), 11am, sem rm F Coombs.

PhD students Brown Bag Lunch, Must art be political? 12.30pm, rm 1004 Pol Sci Arts, all welcome.

Pacific and Southeast Asian History/Political and Social Change RSPacS/Indonesian Studies Group sem, Dr James Rush—Opium smoking in Java, 2pm, sem rm E Coombs.

Demography sem, T. Hull, D.J. Achanfuo-Yeboah and H. Moir—Asking demographic questions: education and occupation, 3.30pm, sem rm A Coombs.

Wednesday 1 December

Anthropology RSPacS sem, Ananda Rajah—Kinship and domestic ritual in a Karen village, 9.30pm, sem rm C Coombs.

Centre for Research on Federal Financial Relations Economics sem, Mr W.J. Stock—Mineral revenues and fiscal equalisation, 12.30pm, rm 2071 Copland.

Pacific and Southeast Asian History/Political and Social Change RSPacS/Indonesian Studies Group sem, Dr James Rush—Hamka, a modern Indonesian Ulama, 12.30pm, rm 301 Asian Studies.

Human Geography RSPacS sem, H.C. Brookfield—'Intensification and disintensification' revisited: second thoughts on a ten-year-old paper, 2pm, sem rm C Coombs.

Thursday 2 December

International Relations RSPacS sem, Prof J.D.B. Miller—Election day in Middletown (ie Muncie, Indiana, on 2 November), 11am, sem rm B Coombs.

RSC/Science Faculty/CSIRO Organic Chemistry sem, Dr G.R. Stephenson—Tricarbonyliron complexes as chiral synthetic equivalents, 11am, rm 134 RSC.

Social Justice Project RSSS sem, F. Gruen—Deregulation and distribution, 11am, sem rm E Coombs.

Sociology RSSS sem, Dr Jonathan Kelley and Ms Marijke Saltet—Revolution and social mobility in Hungary, 3.45pm, sem rm E Coombs.

Law RSSS sem, Dr Wojciech Sadurski—Equal opportunity in Australian law, 4pm, sem rm F Coombs.

RSES sem, Dr Phil McFadden—Palaeosecular variation, energy distribution in the core and the cause of geomagnetic reversals, 4pm, sem rm Jaeger.

Canberra Repertory Society play, The man from Mukinupin by Dorothy Hewett, 8.15pm, Theatre 3, prices, adults \$8, rep members, tertiary students and parties (10 or more) \$7, school students, children, old age pensioners \$4.

Friday 3 December

Economic History/Economics RSSS, Dr J.A. Barnard—Taxation, insurance and Australian welfare provisions 1900-1945, 11am, rm 1064 Copland.

Economics RSSS sem, Dr P.W. Miller—A survey of the minimum wage literature, 2pm, sem rm A Coombs.

Canberra Repertory Society play, The man from Mukinupin, details see 2 December.

Saturday 4 December

Canberra Repertory Society play, The man from Mukinupin, details 2 December.

Monday 6 December

RSC Inorganic Chemistry sem, Dr R.M. Peachey—Metal promoted hydrolysis of phosphate esters, 11am, rm 134 RSC.

RSC Physical and Theoretical Chemistry sem, Prof K. Ruedenberg—Are atoms intrinsic to molecular electronic wavefunctions? 11am, rm 57 RSC.

ANU Club for Women Children's Christmas Party, 11am-1pm, wading pool at Weston Park, please bring bathers and one or two dishes of food to share, transport, contact Emeline Haight 473771.

Tuesday 7 December

Biogeography & Geomorphology RSPacS sem, N.M. Wace—Who goes south? expectations, attitudes, behaviour and reception at scientific bases of packaged cruise tourists visiting Antarctica, 1977 and 1982, 10.30am, sem rm B Coombs.

Pacific and Southeast Asian History/Political and Social Change RSPacS/Indonesian Studies Group sem, Dr James Rush—Opium, rascals, and smugglers in 19th-century Java, 11am, sem rm C Coombs.

Far Eastern History RSPacS sem, Dr S.T. Leong—Doing historical research in China: a field report, 11am, sem rm E Coombs.

RSC Physical and Theoretical Chemistry sem, Prof G.W. Robinson—TBA, 11am, rm 57 RSC.

Wednesday 8 December

RSC Inorganic Chemistry sem, Dr J.A.L. Palmer—Au, Pd and Pt complexes of phosphine and arsine chelates, 11am, rm 134 RSC.

Centre for Research on Federal Financial Relations Economics sem, Prof M.C. Brown—Provincial Government saving and the equity rationale of Canada's equalisation program, 12.30pm, rm 2071 Copland.

JCSMR School sem, Dr W. Jagger—Exploring the retinal image with an optical fibre microscope, 4pm, Florey LT.

Thursday 9 December

Social Justice Project RSSS Mini-Conference Series, Peter Wilenski, Daryl Dixon, Geoffrey Hawker—The Welfare State and its administration, sem rm D Coombs, contact 2816.

International Relations RSPacS sem, Mr J. R. Rowland—The French Socialist Government—internal and external policies, 11am, sem rm B Coombs.

RSC/Science Faculty/CSIRO Organic Chemistry sem, Prof E. Winterfeldt—Acetoxycyclopentenone—a building block in stereoselective total synthesis, 11am, rm 134 RSC.

Canberra Repertory Society play, The man from Mukinupin, details see 2 December.

Friday 10 December

RSC/Science Faculty/CSIRO Organic Chemistry sem, Prof E. Winterfeldt—Enantioselectivity and stereoconvergence in alkaloid synthesis, 11am, rm 134 RSC.

Canberra Repertory Society play, The man from Mukinupin, details see 2 December.

Saturday 11 December

Canberra Repertory Society play, The man from Mukinupin, details see 2 December.

Tuesday 14 December

ANU Club for Women coffee morning, Christmas entertainment, 10am, Molly Huxley rm.

Biogeography & Geomorphology RSPacS sem, D. Walker—Three basins in Yunnan and their quaternary sediments, 10.30am, sem rm B Coombs.

RSC Physical and Theoretical Chemistry sem, Prof A.D. Buckingham—Non-linear polarization of molecules, 11am, rm 57 RSC.

Wednesday 15 December

RSC Inorganic Chemistry sem, Dr L.R. Gahan—11am, rm 134 RSC.

Human Geography RSPacS sem, Godfrey Linge—The impact of industrialisation on the household: a preliminary essay, 2pm, sem rm C Coombs.

Visitors

Dr Chew Tek Ann, University of Agriculture, Malaysia, Visiting Fellow in Economics RSPacS for 6-9 months, interest: agricultural economics, 3101.

Prof Angus Maddison, University of Groningen, Netherlands, Visiting Fellow in Economics RSPacS for 1 month, 4367.

Dr Bill Newman, James Cook University, Visiting Fellow in Engineering Physics until 28 February 1983, 2467.

Prof M. Seliger, Hebrew University of Jerusalem, Visiting Fellow until 19 December, interests: liberalism, its nature and relations to socialism; the structure and function of 'ideology', 2076.

Prof P. Van Moeseke, Massey University, Visiting Fellow in

Economics, RSSS, until November 1982, interest: depletion pricing of strategic resources, 4331.

Mr Wing-meng Ho, National University of Singapore, Visiting Fellow in History of Ideas Unit until March 1983, interests: philosophy of science; aesthetics and oriental art (Chinese), 3265.

Mr Wu Jian-po, Chinese Academy of Medical Sciences, Visiting Fellow in RSC from November for 1 year, interest: isolation and chemistry of antibiotics, 4391.

Awards

AFUW—Victorian Scholarships for 1983-84, closing date 15 February 1983, contact 2225.

ANU Postbachelor Travelling Scholarships, closing date 31 December, contact 2225.

Australia-China Student Exchange Scholarships, closing date 14 January 1983, contact 2225.

Churchill Fellowships for Overseas study in 1984, closing date 28 February 1983, contact 2225.

Department of Primary Industry Fishing Industry Research Trust Account Research Grants 1983/84, closing date 10 December, contact 3692.

Distinguished Visiting Scholar, Department of Animal Sciences, Waite Institute, University of Adelaide 1983, contact the Registrar, University of Adelaide.

Izaak Walton Killam Memorial Scholarships and Post-doctoral Fellowships for 1983-84 to Dalhousie University, closing date 15 December, contact 2225.

The Martin Bequest 1983 Travelling Scholarships in sculpture, painting and architecture, closing date 31 December, contact 2225.

National Water Research Council, Department of National Development and Energy Water Research Grants, closing date 23 November, contact 3692.

National Research Council of Canada Laboratories Research Associateships, closing date 15 December, contact 2225.

Netherlands Government Scholarships 1983-84, closing date 10 December, contact 2225.

Peterhouse, Cambridge, Research Studentships, closing date 1 April, contact 2225.

Postdoctoral Fellowships at the Weizmann Institute of Science 1982-83, closing date 15 May 1983 for fellowships starting in October 1982, contact 2225.

Research in Computer Control and Security EDP Auditors Association Prize Essay Competition for Students, entries closing December 1982, contact 3692.

Research in Computer Control and Security EDP Auditors Association Annual Audit Award for Publication, closing date 31 January 1983, contact 3692.

Royal Commission for the Exhibition 1851 in pure and applied science and engineering, closing date 21 February 1983, contact 2225.

Smithsonian Fellowships 1983-84, closing date 15 January 1983, contact 2225.

Visiting Fellowships in Canadian Government Laboratories 1983-84, for research in science and engineering, closing date 15 January 1983, contact Canadian High Commission, Commonwealth Avenue, Canberra ACT 2600.

WHO Fellowships for Research Training in Cancer 1983-84, closing date 31 January 1983, contact 2225.