ANU Reporter

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Soybean genetics discovery could have major impact on farming

An experimental program in plant genetics by a research team at the ANU's Faculty of Science has led to the discovery of a new 'super-nodulation' soybean which promises to revolutionise important aspects of the multi-billion-dollar world soybean industry.

The new soybean has the ability to fix nitrogen in fertiliser-rich soil with up to 35 times the efficiency of existing commercial strains — an improvement which will mean substantial savings for farmers through reduced fertiliser costs.

The ANU scientific team, led by Dr Peter Gresshoff, has been carrying out its research under a $2.2 million, four-year contract with a United States agricultural research corporation, Agrigenetics. Other work in the program is being done at the Research School of Biological Sciences.

With the project only just past its half-way mark, the Botany Department team has already accomplished its main goal. Agrigenetics has filed a patent for the new 'super' soybean and will have exclusive rights to it in all parts of the world, except Australia.

In Australia, in return for the provision of research facilities, the patent rights belong to the ANU.

Dr Gresshoff told the *ANU Reporter* he sees exciting potential for utilising the new strain of soybean in this country as a profitable commercial crop.

One of the main drawbacks of currently available commercial varieties of soybean is that they do not begin fixing atmospheric nitrogen in their root nodules until they have lowered the available nitrogen in the soil. This greatly reduces the plants' value as enhancers of soil fertility.

The research team (left to right) Dr Peter Gressoff, PhD students Bernie Carroll and Kathy Schuller, Mrs Angela Higgins, Dr David Day, Dr Angela Delves (crouching) and Mrs Jan Bateman.

Faster

The ANU team's aim was to develop new strains which would begin nitrogen fixation while there was still nitrogen in the soil — and which would also fix the nitrogen at an overall faster rate than existing soybean varieties.

Other members of the research group include Dr David Day, Dr Angela Delves, Dr Dagmar Hanold and Dr David McNeil, with Mr Bernie Carroll and Ms Kathy Schuller involved as PhD scholars. Closely-related projects involve Ms Susan Howitt, Ms Anne Mathews, Mr John Betts and Ms Jeannie Douglas, a number of past honours students and several highly-qualified technical assistants.

As their starting point the researchers took seeds of the major commercial soybean variety, Bragg, and treated them with a potent mutagenic agent, ethyl-methyl sulphanate. The seeds were planted in research plots at Tamworth, NSW, and at Canberra. Second-generation seed from this stock, carefully separated into 2500 original families, formed the basis for selection trials aimed at identifying mutant strains with the desired characteristics.

Of the 2500 families, 15 were found to show the elevated nodulation phenotype in the presence of externally supplied nitrate fertiliser.

Detailed analysis of these in terms of their genetics, physiology, agronomy and biochemistry will take several years. For this reason, the researchers selected one particularly promising mutant, nts-382, for detailed initial study (nts stands for nitrate-tolerant-symbiosis).

The results of trials comparing nts-382 with the commercial Bragg soybean variety have been extremely impressive.

In greenhouse experiments with no free nitrogen in the soil, four-week-old Bragg commercial soybeans produced an average of 37 nitrogen-fixing nodules per plant, compared with an average of 339 nodules for nts-382.

And whereas with the Bragg variety the number of root nodules declined as the amount of available nitrogen in the soil was increased, for nts-382 the reverse happened. When the Bragg variety was grown in soil watered daily with about 0.5 grammes of nitrate fertiliser, the number of nodules per plant was only 25. The nts-382 soybeans, in contrast, produced a staggering 783 nodules per plant — well over twice the number nts-382 produced in the absence of free nitrogen and 30 times the quantity produced by Bragg plants growing in identical soil conditions. The nodules were all of normal size and capable of efficient nitrogen fixation.

This performance led the researchers to dub the new variety 'super-nodulating'.

Although the experimental results are all from glasshouse trials, Dr Gresshoff says there is every reason to believe that the cropping potential for the new variety under field conditions will be at least as good as for normal soybeans. 'But the real gain from nts-382,' he adds, 'is that instead of taking nitrogen out of the soil, it will leave the fertility undiminished and even add to it.'

Rotation

Almost everywhere in the world soybeans are grown in rotation. In the United States the alternating crop is either wheat or maize, whereas in Australia it is usually either wheat or sorghum.

Whatever the alternative crop, however, the soybean uses up all the free nitrogen in the soil, with the result that the farmer has to apply a heavy dressing of fertiliser before he plants his wheat or other cereal crop. The amount of fertiliser needed is generally about 100kg of nitrogen per hectare, at a cost of nearly $1 a kilo.

Dr Gresshoff says the new super-nodulating soybean should substantially reduce this fertiliser cost.

Other bonuses to be gained by growing enhanced nitrogen-fixing soybeans or other legumes would be a reduction in the problem of nitrogen runoff into ground or surface water, and less destruction of soil structure. These are both significant gains in terms of protecting the environment.

Dr Gresshoff points out that Australia is currently an importer of soybeans and their many products — such as soybean oil and soy meal (a stock feed additive). He sees no reason why we should not become self-sufficient, or even a substantial exporter to South-east Asian markets.

'Soybean in the US is the number one cash crop. It is worth $20 billion a year in returns to the economy — which makes it bigger than wheat or maize.'

Dr Gresshoff says a recent survey by the New South Wales Department of Agriculture

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Comment

By Brian Martin

Age discrimination in academia

In November 1983, a series of lectureships in The Faculties was advertised. It was clear from the advertisement that the jobs were not intended for people much older than their mid-30s. In March 1984 the Research School of Chemistry advertised the first of a series of posts as 'part of a program designed to attract outstanding young chemists to tenured positions within the School'.

These two examples are cases in which there is an explicit intention to discriminate against older applicants. This is in addition to widespread covert age discrimination. In one case of which I am aware, all candidates over the age of 30 were summarily excluded from consideration, although the advertisement had not specified any such age criterion.

The introduction of age discrimination in academic appointments is a serious step, since it introduces a factor having no connection with academic criteria. Here I present some of the arguments against age discrimination and outline some alternatives to such discrimination. Quite a number of the points arose in discussions with other members of the Action Group on Discrimination, an ANU group which was set up last year over concern about age discrimination.

The basic argument for age blindness is that chronological age itself has no relevance to a person's ability to perform a job and to contribute enthusiasm and new ideas. Therefore age discrimination should be ruled out just as discrimination should be ruled out on the basis of sex, ethnic origin, political affiliation, religion, nationality, sexual preference and other such factors.

The most obvious disadvantage of age discrimination is that the most suitable person for a task is not always obtained. For the ANU posts, outstanding older applicants will be ruled out of contention.

When discrimination occurs and is seen to occur, those discriminated against can become resentful and disillusioned because their hard work and achievement of high levels of academic performance is not fairly recognised. This certainly applies at the ANU. In the Research Schools, for example, there are quite a number of researchers in their 30s or older with outstanding academic records. If the few tenurable jobs which come up are given preferentially to less outstanding candidates simply because they are younger, a feeling of betrayal is only to be expected.

Age discrimination is de facto discrimination against women. Talented women are more likely than men to have interrupted careers, due to child-bearing and rearing and also to social expectations and pressures. A woman with the same academic performance and promise is thus likely to be older.

In addition, previous sex discrimination may mean that some talented women have had less job experience and fewer publications at a given age. One example is the woman who was initially barred from an ANU post because she was married to a man with a job, and then later discriminated against because of her lack of academic experience for a person her age.

Two problems in academia are staleness of individual academics and inflexibility of staffing. One of the causes of both these problems is having appointed too many young people in the past: the staff become stale after too many years in the same post, and the large single-age cohort prevents changes in staffing. Discriminating in favour of younger candidates can only perpetuate this pattern.

Preferring younger candidates reinforces the pattern of 'narrow-track' careerist academics: those who have not strayed from the academic research path with a narrow specialisation. Those who have taken time off to rear children, to develop a range of interests, to experience other cultures in depth, to work in a range of employments and to practise other talents are discriminated against.

There seem to be only two arguments for age discrimination which have been regularly advanced.

The first says there is a need for 'demographic balance'. This is the justification advanced for the age discrimination lectureships advertised in The Faculties.

There are several shortcomings in this argument:

- No substantial justification has yet been produced for preferring a 'demographically balanced' employment profile rather than the profile that results simply from appointing candidates on academic grounds.
- No evidence has been presented on what a 'balanced' profile should be. It is simply assumed that more young academics are needed than might result by using scholarly criteria.
- There is already systematic discrimination in favour of younger academics, especially through preference for narrow-track male academics. Therefore achieving 'balance' should mean appointing more older candidates.
- There are more serious demographic imbalances than age, in particular sex and ethnicity. Indeed, it might seem that redressing these more serious problems is sidestepped by focussing attention on alleged age imbalances. Considering all the fuss about demographic imbalance, it is surprising that special funds have not been provided to hire Australia's first woman vice-chancellor.

The second argument for age discrimination says there is a need for 'new blood' — for younger people to bring in enthusiasm and new ideas. But 'new blood' does not have to be 'young blood': older people, especially those with a range of experiences, can provide just as much enthusiasm and as many new ideas as young people. There is no necessary connection between chronological age and the ability to relate meaningfully with students, many of whom are of mature age anyway.

One of the problems facing universities is how to create more employment possibilities in a situation of restricted finances and limited flexibility. Rather than dealing with this by introducing another form of discrimination, it would be better to look at alternatives.

More fractional appointments could be created or encouraged, with security equal to full-time appointments and benefits equal or proportional to full-time appointments. Doing this would create more total positions, and would provide suitable avenues for people just entering academic careers to gain experience. Fractional posts would be advantageous for people who wished to maintain outside interests or activities — including child-rearing — and thus would encourage more outward-looking attitudes among academics.

More total appointments could be achieved by reducing or flattening academic salaries. For example, high salaries (such as lecturer or senior lecturer and above) could be frozen or reduced. This would help redress the unfairness inherent in the present distribution of jobs.

Many academics have tenured posts solely due to historical coincidence — namely their obtaining posts in a period of expansion and shortage of qualified academics. Many other talented scholars are left without a share of the benefits, or even much of a chance of obtaining them. Lowering salaries and increasing the number of jobs would place these talented nomads in positions where their skills could be used effectively.

Another alternative would be to change the tenure system so that security is greatest for those in the lowest positions rather than those in the highest positions. For example, research assistants and tutors might be given continuing appointments, lecturers ten-year appointments and professors two-year appointments. Those in higher appointments would return to a lower position unless reappointment were made on the basis of current performance.

More weight could be placed on experience in non-academic areas and on interdisciplinary and critical research and teaching, in order to reduce the current over-rewarding of narrow specialisation. Such a change in emphasis would help overcome staleness which often results from inward-looking specialisation and would open job possibilities for more people with less conventional backgrounds, such as people in industry, government, the professions, community service and the like.

A combination of these alternatives would do much to overcome the staleness and inflexibility presently afflicting universities. It would also create many openings for both young and old people to enter academic life at a level and intensity which they would find suitable personally and stimulating intellectually. This would allow society to benefit from the enthusiasm and commitment to scholarly goals of many whose capabilities are now being neglected or wasted.

* *Dr Martin is Research Associate in the Department of Mathematics, Faculty of Science.*

Letters to the Editor

Equal opportunity

Concerning 'Comment' (*ANU Reporter* 22 June) and the letters in reply — believe it or not, my comments are no ploy, rather a plea. There is nothing in my remarks to preclude a woman from holding office as Dean of Academics. Nor is there the intention of unduly delaying worthwhile changes.

Nevertheless, this is a university and not a government department, and the issues are much wider than the employment prospects of women. Hence the staff (all staff — academic and general), have a right to be consulted and to contribute ideas.

Instead, this has not occurred. An eight-year-old report had reappeared within the new (Sawer) report. Council approved the majority of its recommendations before the university community had even seen it. Why couldn't the Council have tabled the Sawer report for, say, 3 months and then proceeded to implement those recommendations it considered necessary?

If principles of justice are 'enshrined in the present proposals', then justice also requires the same urgency for all groups being discriminated against — it is not justice to single out only one such group.

John Broomhead,
Department of Chemistry
Faculty of Science

Sex discrimination

Had R.H. McLeod (*Reporter* 13 July) read my report at all closely, he would know that the concept of systemic discrimination to which he refers does *not* imply that conscious discrimination has taken place.

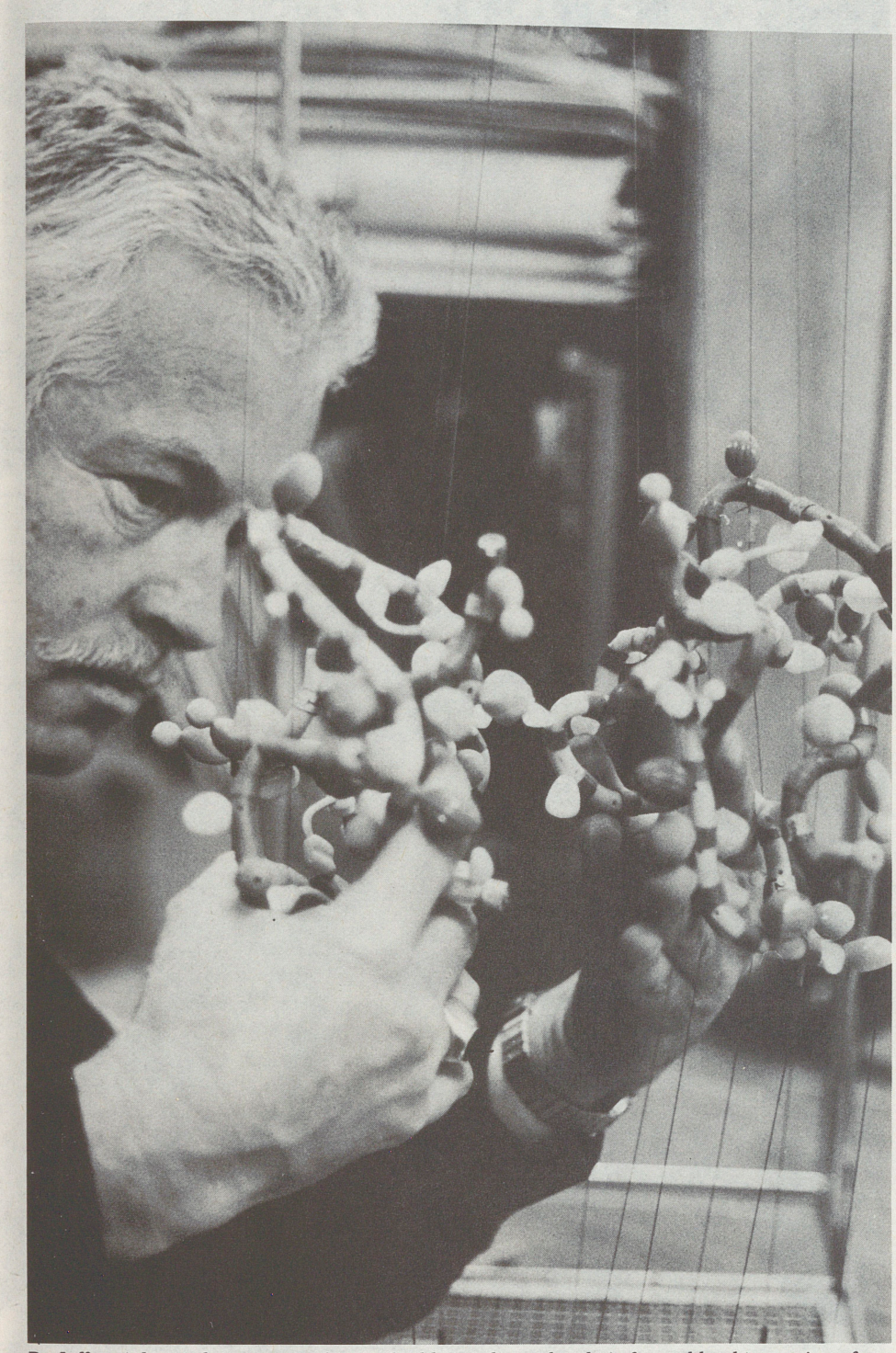
One example of systemic discrimination given in the report is the failure to accommodate work patterns and career structures to family responsibilities. To suggest that such forms of discrimination have existed does not, as R.H. McLeod puts it, 'call into question the judgment, if not the integrity of all those involved in recruitment and promotion of staff over the years . . .'

On two occasions I have contacted the Dean and offered to address the Faculty of Economics and Commerce on the concepts involved in anti-discrimination legislation. Unfortunately these offers have not yet been taken up.

There is a substantial literature on the concepts of indirect and systemic discrimination, and legislation prohibiting indirect discrimination (policies and practices which appear neutral but are discriminatory in effect) has been in existence in Australia for almost ten years. If Faculty members do not have time either to read my report or other literature on the subject, a brief glossary of key concepts is available from EEO contacts.

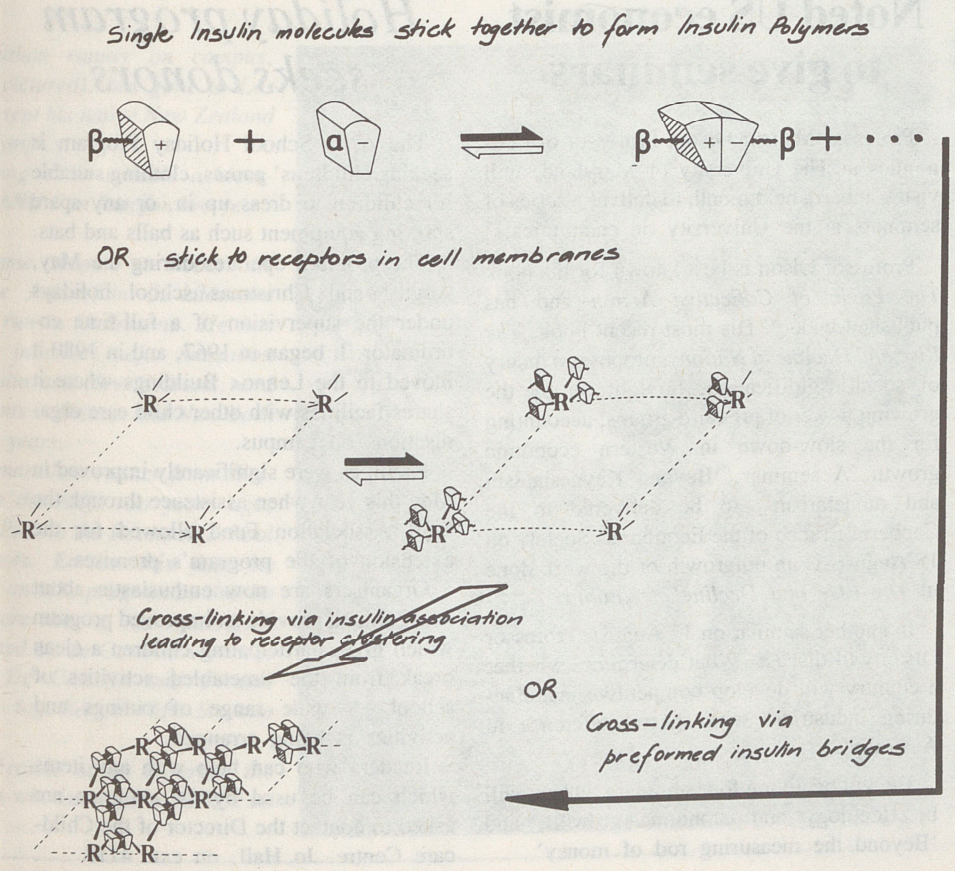
Marian Sawer
EEO Consultant.

Solving the insulin puzzle



Dr Jeffrey (above) demonstrates how a double insulin molecule is formed by the reaction of two alpha faces.

Two insulin molecules (below) bind through their α faces to form a double molecule in which two ß faces are exposed. The process can continue to give polymers with α faces exposed which can bind to receptors and give rise to clusters. Alternatively, the single insulin molecules could bind to receptors first then stick together through ß-ß interactions to produce receptor clustering.



It has been more than 60 years since the hormone insulin was discovered, yet despite a huge international research effort, a complete knowledge of how this small protein produces its effects remains elusive.

Two Canadian scientists, Frederick Banting and Charles Best, discovered in 1921 that insulin produced in the pancreas could lower the blood glucose level in a diabetic dog.

This finding revolutionised the treatment of diabetes and triggered an enormous research effort around the world to understand exactly how insulin works.

Research in the Physical Biochemistry Department in the John Curtin School of Medical Research, carried out by Professor Lawrie Nichol, Dr Peter Jeffrey and PhD student Alan Mark, is concerned with the first step in insulin's action. This is the binding of the insulin molecule to specialised receptor molecules, also proteins, embedded in the outer membrane of cells such as fat, liver and muscle cells.

The binding process has been extensively studied and has characteristic and important properties which are not yet understood. The insulin receptor complexes are somehow linked together to form little clusters, a process that seems to be important for the biological activity of insulin.

It is also thought that the formation of insulin-receptor clusters may function to amplify the signalling which tells glucose-transporting units to migrate to the cell membrane, fuse with it, and form channels to let the glucose in. Through this process, overall control of glucose metabolism is achieved. This is lacking in diabetics.

Dr Jeffrey says the ANU researchers have obtained a very detailed knowledge of the structure of insulin itself and a good general picture, increasing all the time in detail, of the structure of its receptors.

He told the *ANU Reporter:* 'We are trying to put all this information together to explain how their interaction can result in the responses that are observed. A very striking property of insulin molecules is their propensity to link with each other to form double, triple, quadruple and even longer assemblies, called polymers.'

Very little attention had been given to this phenomenon in the action of insulin, he said. It occurred because the insulin molecule, which looked something like a 'slice of pie', had along its 'cut edges' two sticky or reactive faces which were respectively identified by the symbols for alpha and beta.

In a model which the team has devised, these 'faces' react with each other in an alpha-to-alpha or a beta-to-beta fashion, to form the insulin polymers.

'Thus when insulin is dissolved in water or in blood, it will be as a mixture of molecules of different sizes rapidly interchanging from one form to another by the addition or loss of single insulin molecules. The proportion of the various polymers depends on things like the amount of insulin, the acidity and temperature. The model is expressed in the form of equations that allow us to calculate these proportions for any set of conditions that can be studied experimentally,' Dr Jeffrey said.

The team's model differed from many previous models formulated in that it described a solution of insulin as one containing insulin molecules of all sizes.

'More significantly, they all have at least one exposed receptor binding site. Odd numbered polymers have one site, even numbered polymers have two. The latter, or perhaps only those with the right geometry, could make insulin bridges to cross-link insulin receptors into clusters.'

Alternatively, insulin molecules already bound to receptors through their alpha faces could link receptors together.

'Our next step is to see whether we can write theory which expresses this sort of picture, or some realistic variant of it, in mathematical form,' Dr Jeffrey said.

'This is important because then we can use computer calculations to compare the properties of our model system with those we can observe experimentally for the real insulin-receptor interaction.'

Signals

Once insulin-receptor clusters were formed they were encapsulated and taken inside the cell, where some generated more signals other than those to stimulate the migration of glucose, and also triggered other processes. Finally they were broken down, the insulin was degraded and the receptors recycled to the membrane, all in a matter of about 20 minutes.

As well as promoting overall glucose metabolism, the effects of insulin also included the stimulation of the transport of amino acids into cells, the promotion of DNA synthesis and cell growth. This diversity of effects was one reason why insulin's action presented a massive challenge.

One of the likely fruits of a full understanding of how hormone insulin worked would be a more rational approach to the control of the different forms of diabetes, based on a knowledge of which part of the complex molecular machinery had failed, Dr Jeffrey added.

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Morrison Lecture on Chinese revolution

Professor J.S. Gregory, of the Department of History at La Trobe University, will give the Morrison Lecture on 8 August on the topic, 'The Chinese and their Revolution'.

Professor Gregory joined La Trobe University in 1968 and has taught courses on modern Chinese history, the religious history of Australia and the French and Russian revolutions. He is a graduate of Melbourne University, where he taught Chinese and Japanese history for 10 years before moving to La Trobe, and of the University of London's School of Oriental and African Studies.

In the field of Chinese history his main publications have been on the Taiping movement — *Great Britain and the Taipings* (1969) — and, in association with the late Prescott Clarke of Monash University, *Western Reports on the Taiping* (1982). He has also published on Church-State relations in Australia.

The annual Morrison Lecture was founded by Chinese residents of Australia and others to commemorate the work of George Ernest Morrison, a Geelong-born doctor who lived in China in the late 19th and early 20th centuries, and to stimulate interest in Australia in Chinese art, literature and culture.

Professor Gregory's lecture will be at the Coombs Lecture Theatre at 8.15pm. The lecture is free and the public is invited.

Informal economy sector 'little use to jobless'

The so-called 'informal sector' of the economy was found to have little application in the lives of unemployed people surveyed in the western suburbs of Sydney, a seminar at the ANU was told recently.

Professor Bettina Cass, of the Department of Social Work, University of Sydney, gave a seminar in the Urban Research Unit on the results of a survey of unemployed people in the western region. It dealt with the local labour market, transport and housing issues.

Professor Cass found that two-thirds of the respondents had sought assistance from formal agencies, which suggested that opportunities for extra earnings, either of a recorded or unrecorded nature, were neither regular nor sufficient enough to prevent significant impoverishment.

'Recent literature on the economic crisis in advanced industrial countries has focused on the potential development of an informal sector of economic transactions centred on the household and the local community,' she said.

Professor Cass said the survey had found some slight evidence of non-monetary informal transactions of a reciprocal nature.

'Half of our sample of unemployed people were involved in social networks through which they exchanged goods and services which were necessary for augmenting inadequate pensions and benefits.

'People with dependent children were the group most likely to have received non-monetary assistance from relatives, friends or neighbours.

'But our employed respondents were even more likely than the unemployed to have received such assistance. Other family members were the major source of assistance for the unemployed, although friends, and less commonly neighbours also provided assistance.

'The help received included gifts of food, clothing, assistance with accommodation, household equipment, furniture and moral support,' Professor Cass said.

Such informal assistance was usually able to contribute very little to the augmentation of pensions, and this was shown by the significant proportion of the unemployed sample who had approached either a Government department or a community organisation for formal assistance. Aid was most commonly sought for emergency relief for food, accommodation payments, furniture and household items.

'The patterns of informal, reciprocal assistance usually passing between family members and friends bears no resemblance to conceptions of a hidden economy which augments earnings through unrecorded labour transactions,' she said.

Professor Cass said the survey had brought out a number of features of the local labour market. The majority of unemployed respondents had no post-school qualifications, while one-fifth had a trade or technician's certificate. Prior to unemployment, respondents had worked predominantly in manufacturing, transport, sales and service industries, in jobs which had become less secure.

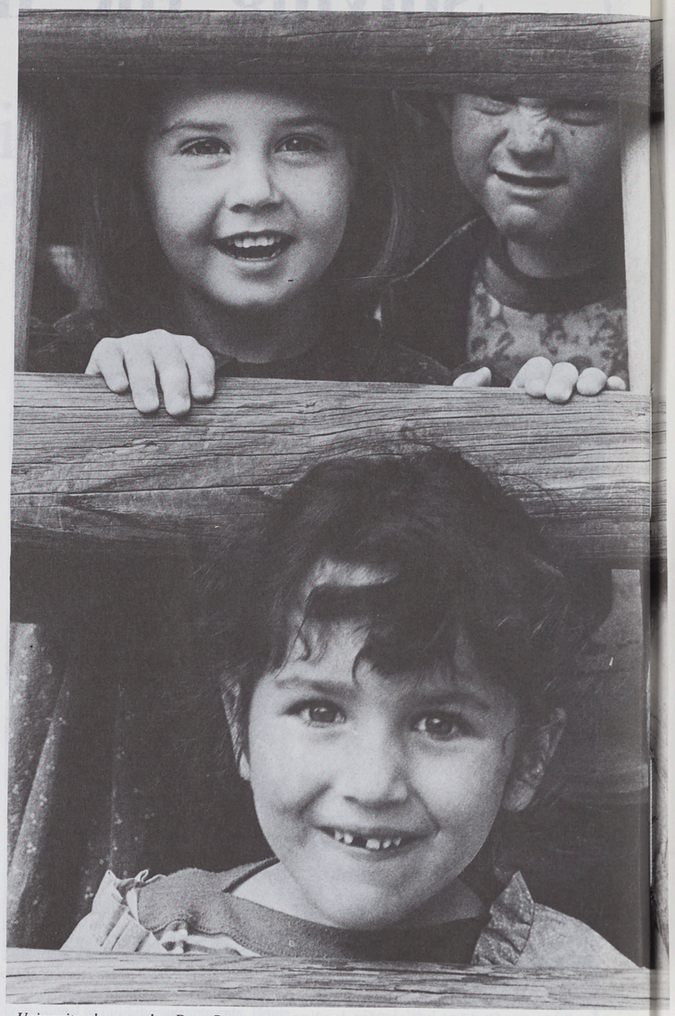
'Respondents expressed satisfaction with their housing, particularly public housing, because it was secure and affordable . . . However, they were less satisfied with transport systems which constrained their job mobility,' she said.

The survey also showed that while respondents expressed interest in undertaking training programs, older workers noted that the scarcity of training programs for adults over the age of 24 restricted their opportunities to acquire skills and qualifications.

Professor Cass was able to conclude that 'the nature of unemployment and job search must be understood within the boundaries of the local labour market, shaped by changes in the local structure of industries and occupations as they are affected by national economic policies, and shaped also by the ways in which housing location and transport systems set physical limits to job opportunities.

'At the level of policy, considerations must be given to devising training programs linked with job placement, job creations in the local region and transport policies which facilitate the mobility of labour.'

Home away from home



University photographer Dave Paterson took this happy picture of children on the outdoor play equipment at the Parents on Campus Child Care Centre. Top (from left): Zoi Constantine and Adam Whiteford. Bottom: Mary Rossiter. All are aged four.

ANU adopts sexual harassment policy

The University has adopted a policy on sexual harassment in accord with a recommendation by Dr Marion Sawer in her report *Towards Equality of Opportunity*.

In a proposal to Council at its meeting on 13 July, the Vice-Chancellor said the University did not wish to interfere in the personal lives and relationships of its staff and students. However, as a responsible employer and educational institution, the University aimed to eliminate sexual harassment within the work place and in the context of staff/student relations.

The Vice-Chancellor proposed that the University policy should be as follows:

The University is concerned where sexual harassment:

- Creates an intimidating, hostile or offensive working or studying environment
- Adversely affects an individual's work performance
- Adversely affects an individual's prospects for employment or promotion, or educational achievement
- Results in resignation, departure from courses or unfair dismissal
- Causes embarrassment or distress to staff or students
- Reflects on the integrity and standing of the University

The Vice-Chancellor's proposal contained a set of procedures for handling complaints of sexual harassment within the meaning of the *Sex Discrimination Act 1984*. Included was an undertaking to set up a panel of 10 persons with whom complainants could discuss problems of sexual harassment and whose identities would be publicised throughout the University. As well, a 'sexual harassment phone line' to the Counselling Service would be available.

The Secretary is to arrange publicity and education to raise awareness in the University of the type of behaviour constituting sexual harassment and alerting individuals to the procedures open to them if they have a grievance.

Before the issues are considered further, comment is to be sought from the Heads of Research Schools, the academic boards, the Deans of the Faculties and staff association.

Noted US economist to give seminars

Professor Mancur Olson, Professor of Economics at The University of Maryland, will visit Canberra next month to deliver a series of seminars at the University on economics.

Professor Olson is best known for his book *The Logic of Collective Action* and has published widely. His most recent book, *The Rise and Decline of Nations*, proposes a theory of social rigidification, brought on by the growing power of pressure groups, accounting for the slow-down in Western economic growth. A seminar, 'Beyond Keynesianism and monetarism', to be delivered to the Canberra Branch of the Economics Society on 15 August, is an outgrowth of the work done in *The Rise and Decline of Nations*.

In another seminar on 17 August, Professor Olson will discuss 'What determines whether a country will develop competitive manufacturing industries, with special reference to Australia'.

He will be giving four seminars. Others will be 'Ideology and economic growth', and 'Beyond the measuring rod of money'.

Holiday program seeks donors

The ANU School Holiday Program is seeking childrens' games, clothing suitable for children to dress up in, or any spare sporting equipment such as balls and bats.

The program operates during the May, August and Christmas school holidays under the supervision of a full-time co-ordinator. It began in 1967, and in 1980 it moved to the Lennox Buildings where it shares facilities with other child care organisations on campus.

Facilities were significantly improved in May this year when assistance through the Staff Association Fund allowed for the extension of the program's premises.

Organisers are now enthusiastic about being able to provide an improved program which gives participating children a clean break from the timetabled activities of school. A wide range of outings and activities is being arranged.

Readers who can help with any items which can be used by the program are asked to contact the Director of the Child-care Centre, Jo Hall, on ext. 4113.

Advice for travelling academics

How to save money on shipping expenses

One of the drawbacks of academic life is the necessity often to shift home — across the country, or across the world. A reader of the *ANU Reporter* has some advice which may help others to save on the expenses by doing much of the work of shipping themselves.

The writer of the article recently returned to the United States after an appointment at the ANU as a senior research fellow. He had more than 28 cubic metres of library and effects, which virtually filled a shipping container. Other travellers possibly might not have such a volume of goods.

The writer relates that 'the process is much easier than I had imagined and my belongings arrived with absolutely no damage whatsoever.'

He continues:

'All items inside the containers must be securely tied down or lumber must be used to tightly wall off the goods if the container cannot be completely filled. This is an easy job with timber, nails and a hammer. For packing, liquor cartons are easy to get if one thinks ahead; however, there is an advantage to have all the cartons as much the same size as possible.

'In Canberra, one company was willing to bring the container over to my university office on Friday so that it could be loaded over the entire weekend. It does take an entire weekend working 12 hours a day to do this job properly. One only needs two helpers.

'On arrival at Los Angeles, contrary to all expectations, I found that one can hire, inexpensively, a trucker to truck the container to wherever you want to unload it — once again on a Friday, so that one has a free weekend to unload it. It takes only four to five hours to unload the entire container with a hand truck and two helpers.

'One obtains a truck from a list that the shipping company has on file (about 100 truckers and trucking companies were listed) of truckers who have insurance with the steamship line. A steamship company will not allow you to hire a trucker to remove his container from his wharf if the trucker is not listed with him for insurance. The cost to truck the container from Long Beach to the university (a 50-minute truck drive) would be $1,200 if the steamship company handles it for you. The same job costs under $200 if you handle it yourself.

'Contrary to expectations, customs is no problem if your container has household effects and equipment for work and if you call the customs officer ahead of time and announce yourself and the contents of your container. It took 20 minutes to clear customs and I could have brought as many as 12 cases of wine, if they were my personal wine cellar, without its being taxed. Not knowing this I had to leave my delicious Australian wine (and all its potential memories) behind.'

Women offered self-defence

The Sports Union is this term offering a special course in women's self-defence.

It is to be taught by Maurice Aladjem, who has been teaching self-defence for eight years and is an artist and lecturer at the Canberra School of Art.

Mr Aladjem said most martial arts and self-defence systems were developed by men for men, usually very strong men. However, one style, Wing Chun, was devised by a Buddhist nun, Ng Mei, 250 years ago in China and was based on very direct and practical movements suited to people with short height and slight build.

'Women will be able to be taught the basis of this very practical realistic and direct form of self-defence through a specially developed program with particular needs in mind,' he said.

Other activities offered by the Sports Union include exercise to music classes, jazz ballet, tennis, yoga, traditional Chinese massage, martial arts, fitness testing and programming, self-hypnosis for stress and cross-country skiing.

ANU student at Olympics

The fastest marathon runner on campus, Derek Froude (pictured), has gone to Los Angeles to represent his native New Zealand at the 1984 Olympics.

Froude has, among other notable achievements, won the ANU Fun Run for two years in succession.

Last year he came second to Robert de Castella in the Australian 25-kilometre Championships run in Melbourne. He has taken out firsts in other major marathon events in Australia and New Zealand, and competed in events in Britain and New York in the last two years.

The 25-year-old marathon runner from Wellington came to the ANU two years ago, initially to do a PhD in the Research School of Earth Sciences. Earlier this year he dropped back to an MSc program so that he could devote more time to his running.

He is being assisted by de Castella's coach, Pat Clohessy. De Castella and Froude regularly train together in Mt Stromlo Forest.

RIGHT: Derek Froude about to cross the finishing line to win last year's ANU Fun Run.

TWO RETIREMENTS

The University farewelled two familiar faces in July. Mrs Marjorie Seton (left) retired after 28 years. She worked in the Central Store as an invoice clerk and filled many other positions in the course of her long service. Mrs Seton helped in directing the many changes which the section has undergone since early days. Mrs Glenys Milton (right) who has been with the University for 17 years also retired. Mrs Milton worked as a cleaner through the Buildings and Grounds section and was well known around the campus. Her friends held an early morning — cleaners hours — send off. Among her many regrets in leaving Mrs Milton said that the 4am starts was not one.

Visitor speaks on feminine role

Charity James, 71, educator, lecturer, writer and spiritual guide to that which is 'beyond the mind' visited ANU recently.

She was in Canberra for a series of workshops and lectures, and came to the University after an invitation by Women's Studies Program, and the ANU Counselling Service.

In her talk she suggested that myths reflect and profoundly influence how people view and experience the world. She referred to classical Greek, Middle Eastern and Indian myths, Jungian interpretations of them and how they were relevant to an understanding of the position of women today.

She said there was a need to see women and men as both female and male, as well as transcending male and female.

'We have played along for thousands of years with the masculine view of the world, a patriarchy with notions of heroes and the like. We have realised that can be dangerous and there are moves now towards the early matriarchal movement,' she said.

'But I get a little worried with the feminist approach — the sort of ideas that lead to women saying, ''I have got rid of the man in my bed, now to get rid of the man in my head''. What we really need to do is simply reintegrate the feminine role, not abandon one for the other.'

Beijing University exchange scheme

Applications are invited from ANU scholars who wish to undertake research in China under the ANU-Beijing University (Beida) Exchange Agreement.

The agreement was signed in December 1980, and the two universities agreed to exchange academic staff as Visiting Scholars to engage in research and advanced study, and to make all arrangements on the principle of reciprocity.

Applications should be forwarded to the secretary of the Chinese Universities Exchange Committee, Miss Carola Parke, Joint Schools, Coombs Building, by Friday 10 August. Inquiries should be directed to the chairman of the committee, Professor Wang Gungwu, Department of Far Eastern History, RSPacS.

SANA to hold first AGM

The ACT Branch of the Scientists Against Nuclear Arms (SANA) will hold its first annual general meeting at 9 pm in the Haydon-Allen theatre, Copland Building, on 1 August, following a lecture on 'The Economic Consequences of Military Expenditure' by Mr John Langmore, ALP candidate for Fraser.

The ACT Branch of SANA was established in Canberra in May under the presidency of Professor Alan Runciman, head of the Department of Solid State Physics, RSPhysS. Since then seven working groups have been established to look into Maralinga and other nuclear tests, uranium and the nuclear fuel cycle, defence facilities and strategies, politics in the nuclear age, environmental effects of nuclear weapons and the arms race, psychology and education, and biological and chemical warfare.

Full membership is open to 'scientists', which is taken to mean anyone involved in working or studying in the physical, natural or social sciences, including engineers and technologists. Other categories of membership are associate and student.

The primary aim of SANA is to halt and reverse the arms race, particularly in nuclear, biological and chemical weapons, and to work for the general promotion of world peace, Professor Runciman said. He added that the association is non-aligned and independent and respects the efforts of all groups working for peace. Further information from Professor Runciman on ext. 4244.

Similar organisations to SANA (Aust.) exist in Europe, the UK, the USA and New Zealand and were formed in response to figures which showed that between 30 and 40 per cent of the world's scientists and engineers were involved in some way with armament industries.

SCUNA concert

SCUNA, the ANU Choral Society, directed by Judith Clingan, will present its second concert for 1984 in St Paul's Anglican Church, Manuka, at 8pm on 11 August. The program, entitled 'From Byrd to Britten', consists of English sacred music. The performance will be repeated on the following Saturday at 3 pm at St Saviour's Church of England, Goulburn.

Government issues guidelines on funding for 1985-87

At a meeting of the Council of the University on 13 July, the Vice-Chancellor, Professor Karmel, reported on the Government's Guidelines issued by the Minister for Education and Youth Affairs in response to the Commonwealth Tertiary Education Commission's submission for the 1985-87 triennium.

Although the Guidelines set out aggregate funding levels for 1985 and minimum levels for 1986 and 1987, before the latter figures were finalised, the CTEC had been asked to report on a number of matters, of which the following three were relevant to universities:

- The possibility of using new technologies and of utilising more intensively existing resources as a means of increasing enrolments
- The means of improving the output of higher education institutions of skills related to technological progress
- Ways in which higher education institutions could increase their income from other sources including involvement with the private sector for funding of research.

In addition, the new Chairman of the Commission is to report on options for organisational changes for the structure of the Commission and its relationship with States and institutions.

The Government has agreed that the triennial arrangements which have in recent years applied only to recurrent grants for universities and CAEs, should be extended to grants for capital and equipment and for all three sectors.

Additional enrolments

The Government will provide additional funding to meet the costs of the pipeline effect of increased intakes for 1983 and 1984. This will involve funding an additional 6000 enrolments in 1985 rising to 11,000 in 1987. In addition it will support an additional intake of 1300 students in 1985, including a significant proportion of places for Aborigines. This measure will provide a further 4000 places by 1987.

The extra 15,000 places is very modest by any standard, Professor Karmel said. The Commission had recommended an extra 23,000 places; over the period 1981 to 1984 there were an extra 19,000. The extra places have been funded at an average cost somewhat less than $4500. This is low, particularly if, as the Government apparently requires, there should be emphasis towards the technologies and applied sciences, he added.

The extra places will be, as the Commission recommended, mainly in CAEs in outer metropolitan and regional areas.

Funding

The funds provided by the Government for additional places will provide for about an extra 1600 academic staff and 900 general staff by 1987.

Given current budget restraints, the Government did not accede to the recommendations of the Commission to redress the deterioration in staff-student ratios, libraries and other facilities.

In the sums of money provided by the Government in the Guidelines, Professor Karmel told Council that:

- There is no provision for rectification of deficiencies.
- A modest amount has been included for initiatives to promote equity.
- Some provision has been made for Key Centres for Teaching and Research. The Government has provided funds to enable a number of Key Centres to be established in 1985, but it will expect funds allocated to institutions to establish Centres to be supplemented by funds from other sources. The Commission is to consult with relevant authorities such as ASTEC and the Departments of Science and Technology, Industry, and Commerce and Trade and to give priority to activities which have potential for direct economic or social benefit.
- Funds have been provided to support special research grants at the present aggregate level.
- Funds have been provided to maintain the present special research centres, but there is no provision for additional centres. Such provision is not ruled out but before committing further resources in this area the Government wishes to have an appraisal of the work of the existing Centres. The Commission is asked to undertake this and report no later than the end of 1985.
- Funds available for student residences are to be maintained at the present level but will no longer be directed to halls and colleges; instead they will be directed towards individual students.
- There is provision for a modest increase in equipment expenditure. The Commission is to suggest measures to provide for a more detailed monitoring of equipment expenditure and needs, including rates of deterioration and obsolescence, so that the inventory of equipment can be maintained at a suitable level.
- There is provision for an increase of about 20 per cent in building expenditure. The additional funds available for new projects are to be directed to projects which are essential to accommodate growth.
- Provision has been made for additional costs of superannuation. (This provision was not included in the Commission's financial recommendations).

Other Issues

The Government has noted the trend in recent years of increasing enrolments of mature age students. It recognises that this has been instrumental in providing access particularly for women. However, the Government would be concerned if a continuation of that trend affected enrolments of young people, particularly school-leavers. The Government requests the Commission to give highest priority to proposals to increase participation of young people.

The Government endorses the Commission's proposal for all institutions to review their arrangements for entry with a view to providing opportunities for applicants from less-favoured school and home backgrounds while ensuring that the quality of graduates is maintained.

The Government has accepted the Commission's advice that the existing support for student residences should be replaced by a scheme to 'assist needy students with loans or grants towards meeting residential costs whether in halls of residence or in private accommodation or to provide assistance in other circumstances where a student's continued studies are jeopardised'. The Commission has been asked to consult with the Department of Education and Youth Affairs and institutions and to draw up a set of guidelines for institutions to follow in allocating the funds and reporting on their use.

The Government envisages that, under the proposed new arrangements, assistance would be available primarily to needy young students required to live away from home, particularly students from country or isolated areas residing in halls of residence and affiliated colleges.

The Government has supported the Commission's proposed policy that child care is a student service and minor works funds may be applied to the development of child care facilities.

The Government expects that child care facilities provided on campus under these arrangements will be available primarily to students of the institution concerned. Priority of admission would be given to students requiring child care in order to pursue their studies and any subsidy from an institution's recurrent funds should be directed only to needy students. In the Government's view, where staff of the institution concerned have access to such facilities, that access should be on a non-subsidised basis having regard to capital as well as to running costs.

The Government supports the Commission's proposal to undertake major discipline reviews, in particular it wishes the Commission to review adult and continuing education and to report within the triennium.

The Government has recognised the institutional commitment that universities have to research but has also recognised that institutes of technology have a capacity to contribute to industry policy objectives. Accordingly the Government has supported the proposal that CAEs participate in the Key Centres program.

Peace Reseach Centre

Following the signing of a memorandum of arrangements for the operation and funding of the Peace Research Centre on 3 July by the Vice-Chancellor and the Minister for Foreign Affairs, the next step would be the establishment of an interim advisory committee which would proceed to some appointments. It would also give preliminary consideration to the research program to be undertaken by the Centre. The committee would be headed by Professor R.G. Ward, Director of the Research School of Pacific Studies and would contain a member from the Department of Foreign Affairs and one or two other members external to the University.

Academic Salaries

Recoupment of a salary increase of five per cent originally granted by the Academic Salaries Tribunal would now be spread over five pay periods instead of the three at first proposed by the University. The recoupment was made necessary by a reversal of the Tribunal's decision on the amount of the increase proposing instead a two per cent increase from April 1984 and a three per cent increase from April 1985 at a time when the original increases had already been paid for three pay periods. The new arrangement for repayment was reached after discussions with the Academic Staff Association.

Review of Publishing

The Vice-Chancellor referred to an invitation by Council at its June meeting for him to investigate publishing activities within the University in the wake of its decision to close down the publishing activities of ANU Press.

Professor Karmel said he intended to ask the Publishing and Printing Policy Committee to consider two major issues. These were:

- The amounts being spent in Schools, Faculties and other areas on disseminating the results of scholarship and research of the University.
- Whether the University should make any direct subsidies to facilitate this dissemination, for example, by subsidising the publication of books.

Professor Karmel proposed that the membership of the committee should be reconstituted with Professor Douglas Whalan (Chairman, Board of The Faculties) as Chairman. He said that he would ask the Committee to report to him by the middle of 1985, after which he would report to Council.

Other matters discussed by Council included:

Council membership

Council approved the appointment of Lady Patricia Brennan to a vacancy for members appointed by Council. Lady Brennan, a registered medical practitioner in the ACT, and her husband, Justice Sir Gerard Brennan, have seven children, six of whom are university graduates. Lady Brennan's term of office will be for two years.

Committees

Mr Richard Refshauge will be convenor of a General Services Fee Committee which will report and make recommendations to Council on a number of matters relating to the General Services Fee. Other members will be Mrs Margaret Evans and Julia Ryan, as members of Council, the Dean of Students and the Assistant Vice-Chancellor as well as one representative each from undergraduate and graduate student members of Council.

Dr Adrian Gibbs will fill a vacant position on the Committee on Child Care vacated by the resignation of Dr Ben Selinger.

Burton and Garran Hall

Existing self-cook facilities at Burton and Garran Hall are to be extended at a cost of approximately $260,000, $130,000 of which will be an outright grant from the University with the balance loaned over 15 years at an interest rate of 13 per cent p.a.

There are presently 513 student places in the Hall and of these 120 do not carry an entitlement to use the self-cook facilities although a canteen operates within the Hall. With the extension, all student places will carry this entitlement except for a small number of 'tutor' type rooms or flats in which cookers are provided. The 1984 tariff with kitchen entitlement is $28 per week which is expected to rise to $32.50 in 1985. The projected increase on the 1985 figure to take account of additional costs involved in financing the extensions is $2 per week.

Book Review

Focus on Thai ruling class

A History of Modern Thailand, 1767-1942. By B.J. Terwiel. (St Lucia: University of Queensland Press, pp. 379, $29.95/ $17.95)

By John Girling*

I enjoyed reading this book and have learned a great deal from it. (I did not realise, for instance, that early this century King Vajiravudh had proposed separating written words in Thai: would that he had succeeded!)

Although each reign usually gets a chapter (King Chulalongkorn has two), this is far from being an old-fashioned chronicle. The author does not evade controversial issues — such as the homosexual inclinations of the would-be language reformer — nor does he rest content with the many 'received ideas' about individual monarchs. To the contrary.

The results are often illuminating. The devoted monk who became King Mongkut (of 'King and I' fame — or rather, disrepute) is shown to have been not at all the authoritative ruler that some biographers have imagined. The 'undisputed leader of the administration', as Terwiel points out, was a member of the dominant Bunnag family. Mongkut himself 'displayed a certain flair for public relations', yet was sincerely revered by much of the population. (Not the least of the author's accomplishments is his judicious summing-up at the conclusion of each reign).

Power

If the focus of the book is on kings, princes and nobility — the ruling class for most of the period — yet the structure of power and the conditions of the people do come through to us. A detailed discussion of the second reign notes the census of the work force, the survey of arable land, and taxation and rituals (the latter being intended, like the traditional ordeals of fire and water, to encourage trustworthiness among officials).

We also read about the gambling regulations introduced 200 years ago by the first king in a modern-sounding attempt to balance the need for revenue with efforts to preserve the welfare of his subjects. For gamblers were only allowed to gamble within their means. A man with a few buffalo and a dozen acres could borrow so much from a licensed moneylender; yet a well-dressed woman with rings on both hands, and attended by slaves, could only borrow half as much. Cultural activities, too, often benefited from royal patronage.

The darker side of the picture sometimes appears. Security, not surprisingly, came before economic development. A massive irrigation scheme that would have benefited millions was rejected early this century. In the words of the (British) financial adviser: 'Before we can think of a great irrigation scheme we must provide funds for the strategic railways which are essential if the outlying provinces are to be properly governed.'

Loans

Yet, as Terwiel points out, if the king had shown any enthusiasm for the irrigation plans it would not have been difficult to raise special loans. Yet it was this same king — the famous Chulalongkorn — who in Terwiel's opinion agreed to unnecessarily large territorial concessions to the British and French colonial regimes. The king's rare personal qualities, the author properly reminds us, should not blind us to these and other hasty and ill-considered decisions.

Such fair and balanced assessments inform the pages of this most readable and interesting work.

John Girling

Temple guardian, Bangkok . . . a focus on kings, princes and nobility.

* *John Girling is a Senior Fellow in the Department of International Relations, RSPacS.*

Briefly . . .

California exchange

Under an exchange agreement with the University of California, up to five undergraduate and graduate students at the ANU are offered the opportunity to exchange their centre of studies for up to a year. The University of California has nine campuses spread throughout the State, each with its own special field. Further details can be obtained from Dr M.J. Aston, ext. 2809.

Nuclear conference

The fifth Australian nuclear magnetic resonance conference will be held from 17 — 20 February at Terrigal, NSW. A number of eminent overseas speakers will be attending. Further information from Dr R.S. Norton, University of NSW.

La Perouse event

Plans are under way to commemorate Jean Franscois Galaup de La Perouse at his birthplace, the French town of Albi. Proposals include an international symposium on the Pacific at the time of La Perouse, with special reference to aspects of his voyage of discovery. The organisers are particularly interested to have Australian participants at the symposium, scheduled for March-April 1985. Interested persons should contact the Australian Vice-Chancellors' Committee.

From p.1

showed that there were two million hectares of farmland in northern NSW and one million hectares in southern Queensland which could be ideally suited for growing soybeans if alternative seed and growing methods were used.

'That's a $3 billion per annum industry potential which is not being utilised. Most of that land at present is being used for dairy cattle, at a return to the farmer of $76 per hectare a year. If the farmers switched to soybeans they could be getting up to $1000 per hectare.'

Dr Gresshoff adds that the Agrigenetics contract is fostering basic as well as applied research.

The newly-discovered soybean mutants are of immense value to basic research, he says. One of the major questions being asked by researchers in the field of symbiotic nitrogen fixation concerns the contribution made by the plant. Recent advances in molecular biology have made possible the isolation of gene sequences involved in soybean nodulation and fixation of nitrogen, but many of these sequences are uncharacterised. Both the supernodulation mutants and other symbiotically deficient mutants isolated by the Botany Department team will aid in that characterisation.

The researchers are also trying to solve a question first raised half a century ago, of how nitrate manages to inhibit the legume symbiosis.

The findings with soybeans have implications with a wide range of other legumes such as subterranean clover, faba-bean and pea. Already Dr Gresshoff's work has aroused extensive interest in Germany, Mexico and Brazil.

But as for the future of his team's research program at the ANU, Dr Gresshoff says: 'Despite the patents going ahead, we have not had any luck in getting financial support in Australia for further research aimed at testing these mutants under Australian conditions.

'The Wheat Research Council and the Rural Credits Development Fund have both turned us down. We seem to have been continually hitting brick walls.

'If we can't raise support locally it may mean that future extensions of the work, even in relation to Australian agriculture, will have to be funded by overseas interests.'

Cont. from p.8

Demography, RSSS sem, G. Carmichael — First marriage trends in Australia, 3.30pm, sem rm A, Coombs.

Wednesday 15 August

Pacific & Southeast Asian History, RSPacS sem, Dr D. Marr — Revolution and Vietnamese women, 2pm, sem rm D, Coombs.

History of Ideas, RSSS sem, Dr Z. A. Pelczynski — Hegel's theory of civil society and Marx's lack of theory of nationality, 11am, sem rm A, Coombs.

Asian History/Asian Studies sem, John Berwick — Chātrasamāj: Social and political significance of students in Bengal, 1875-1922, 4pm, sem rm 301, Asian Studies.

RSC/Physical & Theoretical Chemistry Lecture course, Dr T. Thirunamachandran, Interaction of radiation with molecules. A quantum electrodynamical viewpoint, 9.30am, sem rm 57, RSC.

Demography, RSSS sem, Dr G. Harrison — The local government dimensions of population work, 3.30pm, sem rm A, Coombs.

Awards

United Nations Conference on Trade and Development Essay Competition, Closing date 15 November 1984, Contact: Mr D.H. Fraser, 3692.

Australian Academy of Science, Weizmann Institute Fund Grants, to support collaboration between scientists in Australia and the Weizmann Institute of Science. Application are normally received by 1 May and 1 November each year. Contact: The Executive Secretary, Australian Academy of Science, GPO Box 783, Canberra ACT 2601.

The Australian Academy of Science, 1985 Gottschalk Medal, Closing date 30 September 1984, Contact: The Executive Secretary, Australian Academy of Science, GPO Box 783, Canberra, ACT 2601.

The Australain Academy of Science, 1985 Pawsey Medal, Closing date 30 September 1984, Contact: The Executive Secretary, Australian Academy of Science, GPO Box 783, Canberra, ACT 2601.

The Australian Academy of Science, Thomas Ranekn Lyle Medal, Closing date 30 September 1984, Contact: The Executive Secretary, Australian Academy Science, GPO Box 783, Canberra, ACT 2601.

Australian Academy of Science, Maxwell Ralph Jacobs Fund, Closing date 31 October 1984, Contact: The Executive Secretary, Australian Academy of Science, GPO Box 783, Canberra, ACT 2601.

Details of the following scholarships may be obtained from the *Graduate Students Section* located on the lower ground floor of the Chancelry Annex:

Australian Meat Research Committee. Postgraduate Awards 1985. Closing date 31 July 1984.

Harkness Fellowships 1985 Awards. Closing date 31 August 1984.

Japanese Government (Monbusho) Scholarships 1985. Closing date 17 August 1984.

Gowrie Scholarship Trust Fund. Research Scholarships. Closing date 31 October 1984.

The Sir Robert Menzies Memorial Scholarship in Law and Medicine. Closing date 31 August 1984.

National Heart Foundation. Vacation Scholarships 1984/85. Closing date 1 October 1984.

Shell Postgraduate Scholarships in Arts, Science and Engineering. Closing date 28 September 1984.

Details on the following scholarships and awards may be obtained from the *Careers and Appointments Service* located on the ground floor of the Chancelry Annex:

Westpac Scholarship. Tenable National Institute of Labour Studies. Closing date 31 October 1984.

University of Melbourne. Harold Wright and Sarah and William Holmes Scholarships. Closing date 30 July 1984.

Australian Computer Research Board. Postgraduate Scholarships in Computer Science and Engineering.

Radio Research Board Postgraduate Scholarships. Postgraduate Scholarships in Electronics, Telecommunications and related fields.

Newman College Archbishop Mannix Travelling Scholarship. Closing date 30 September 1984.

Department of Education and Youth Affairs — Prince Rainier III Bursary. Closing date 1 November 1984.

Visitors

Dr S. Bann, University of Kent, Visiting Fellow, HRC, July-September 1984, interests: Landscape, Garden History, Historiography, 2223.

Dr S.A. Smiles, Exeter College of Art & Design, Visiting Fellow, HRC, July-September 1984, interests: Art in England 18th & 19th centuries, 2063.

Dr D.M. Pederson, California State College, Visiting Fellow, Biochemistry/The Faculties, July 1984, interests: Temperature adaptation in micro organisms, 2843.

Meetings

Third Mathematical Psychology Conference, Macquarie University, 12-14 November 1984, Closing date 17 September 1984, Contact: Professor R.P. McDonald, School of Education, Macquarie University, North Ryde, NSW 2113.

First Pan Pacific & Eighth Annual Conference on Risk Management, Surfers Paradise, Qld, 12-14 November 1984, Contact: Robyn Houghton, Co-ordinator, P.O. Box 976, Fortitude Valley, Queensland 4006.

Call for papers

Third Mathematical Psychology Conference, Macquarie University, 12-14 November 1984, Closing date 17 September 1984, Contact: Professor R.P. McDonald, School of Education, Macquarie University, North Ryde, NSW 2113.

Classified

Advertisements are restricted to staff and students of the University and members of Convocation and to 20 words each. Typed advertisements should be sent 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 August. Inquiries 2229.

For Sale

VW, Beetle, 1973, immaculate cond, reg May 1985, $3,000 ono; 478690.

Datsun, Bluebird, Wagon, 1982, 47000km, manual, radio/tape deck, new tyres, 2 yr warranty, owner going o'seas, $7500 ono; 465109/824434.

Renault 10, reliable transport, new battery, new starter motor & more, radio, reg 12/84 $700 ono; 476852.

Valiant 1970 Hemi, reg October 1984, new transmission, radio, towbar, no beauty, but reliable goer, $650 ono; 2300/546784.

VW, sedan, 1966, mech sound, gd body, reg November 1984, $450 ono; 2965/491151.

Holden Ute., HZ, 1976, 4 on floor, bucket seats, rad/cass, tint windows, gd cond, $4850; 956088.

Stereo speakers, 3-way, 50 wrms, $150 pr ono; 821933.

Kittens, two healthy, attractive, free to gd home, 3265.

VW, 1600, gd cond, tyres good, radio, $1500 ono; 3113/883831 (ah).

Torana, LJ, suit renovation or spare parts, new brakes $250; Trailer, lock-up 4 x 6, no reg, $150; 951392.

Video game, Atari information, manual, circuit diagrams, Australian and/or American versions, 4297/951190.

Mazda, 323, 1978, 5 door hatchback, May reg, owner leaving 1 September, $4000; 4402/816569.

Pram/carrycot, Mothercare, $60; Bouncinette, portachair, change mat, Evaporative cooler $100; Bike, gents 5 speed, Raleigh $50; 816569.

Galant, 1975, manual sedan, 130,000km, avail mid August 1984, $2500; 4743/953472.

Subaru, 1982, 1800 4wd dual range wagon, reg July 1985, 35,000km, ex cond, owner going o'seas, $8500 ono; 816615.

Tables, coffee table, 108 x 54cm x 45cm high, brass frame, glass top, $200; Lamp table, 45cm square x 60cm high, brass with glass top, $100; 3866/910918.

Bunk beds, wooden w/o mattress $65; Window, aluminium 3' x 7' $65; 3336.

Rug, wool Kashmir style 2.6 x 1.65 metres, red, saffron, aqua & blue colours $50; 477301.

Mattress, 4'' thick double bed foam, $15; Boots, walking Dolomite Egger, size 40, $40; 4459/470703.

Indoor plants, Philodendron, 4yr old, 2 in pot $25; Bike, ladies $55; Boots, ladies, brazilian leather 7½B, fully lined, hardly used $25; 865077 (ah).

Guitar, electric, Ibanez Cimar, never played, $150; Walkman, National Panosonic $120; 816507 (ah).

Washing machine, Hoovermatic, TV, colour, Bikes, 10 speed 27'', boy's 16'', tricycle, scooter, bobby car, toys cooling box, going o'seas, 821042/3760.

Uniform, brownie with belt, size 10-12 yrs, $10; 4232.

Louvre doors, 2, size 2040 x 720mm with hinges (3 ea) $15ea. 4488/4751.

Tapedeck, (reel to reel) Philips N4504, 3 heads/motors/speeds, gd cond, $225; 12 tapes incl, 491413 (ah).

Campervan, Mazda El600, 1979, long reg, lwb, 3-way fridge, stove annex, ex cond, $8000; 491413 (ah).

Accommodation Available

Hackett, female 25-35 to share spacious comfortable house with another women, $40 p.w. 478062,

Ainslie, room in share house from mid August 1984 for non smoker over 25, $35 p.w. plus gas and electricity, 4459/470703.

Burgmann College, has at present a limited number of vacancies for permanent or full time accommodation for students, staff or persons engaged in research at the University, 3076/479811.

Northern Rivers/CAE, holiday accommodation, Contact: Brian Unwin, Secretary, Northern Rivers, College of Advanced Education, P.O. Box 157, Lismore, NSW 2480.

Accommodation Wanted

House-sitter, two mature male students, avail from August 1984, care for home, garden pets, excellent ref avail, 472343.

House/Flat, 2/3 br from early August till end of October for 2 visiting fellows, 3283.

Secretarial

Word Processing, theses, reports, letters etc, competitive prices, 585556.

Typing, theses, language, medical, scientific, general, IBM selectric, 814540.

Word Processing, ideal for theses, 2 printouts for the price of one, essays, minutes, prompt efficient service, 959995.

Typing, these, essays, reports, resumes etc, prompt service, central, 472350.

Typing, theses & reports, electronic typewriter, fast accurate work, 473888/549249 (ah).

Word Processing, theses, reports, essays, letters etc, disk containing own work can be purchased if required, 585556.

Wanted

Knitting yarn, for use in fund raising for charity, any colour, any quantity, leave at University Pharmacy.

To buy, G. Schiller, Iconography of Christian Art, Vol.1, 863362.

Miscellaneous

Watch, lost, very small, gold with round face, brown leather strap, of great sentimental value, 4543/821644.

Watch, ladies, found in Forestry car park, 3535.

Pleace check whether it should be 'electric' or 'selectric'

Typing, theses, language, medical, scientific, general, IBM electric, 814540.

Diary

Dairy entries for the next close at 5pm on Wednesday 1 August and are for Monday 13 August till Wednesday 29 August inclusive. Please assist us by submitting All Diary entries on forms available from University Information, 2229.

Monday 30 July

Environmental Biology, RSBS sem, Mr D. Allen — Arid zone pastoralism and native wildlife: are they compatible, 3.45pm. sem rm, RSBS.

Canberra School of Music, Musicplay 8, J. Rose, Violin & S. de Haan, Trombone, Improvised music, 8.15pm, Recital rm.

Germanic Languages/Arts Guest Lecture, Dr A. Obermayer — Die Wiener Volkskomoedie, 10am, sem rm 2143, Dedman.

Social Justice Project, RSSS sem, Dr R.M. Fisher — Concepts of justice in the labour market, 11am, sem rm E, Coombs.

Urban Research Unit, RSSS sem, Dr D. Bell — The right to retreat: spatial and gender relations in urbanising Aboriginal society, 2pm, sem rm D, Coombs.

Public Lecture, Professor E.J. Corey (Sheldon Emery Professor at Harvard Univeristy) — Total synthesis of biologically active molecules, 8pm, RSC LT, All welcome.

RSC/Physical & Theoretical Chemistry Lecture course, Dr T. Thirunamachandran — Interaction of radiation with molecules. A quantam electrodynamical view-point, 9.30am, sem rm 57, RSC.

Sociology/The Faculties sem, Nira Yuval-Davis — The position of women in Israel (jointly with RSSS), 3.45pm, sem rm 2095, Haydon-Allen.

Psychology/The Faculties sem, M. Dickerson — Why clinical psychologists stopped testing their clients, 3.30pm, sem rm 105, Top fl, Psychology bldg.

Tuesday 31 July

Research Students' Association, Thesis writing workshop series, Computing and Data Analysis, 1pm, HRC, sem rm, A.D.Hope.

Political Science, RSSS sem, A.L. Burns — Why the full preference vote of setting Australian against Australian, 4pm, sem rm, D, Coombs.

Far EAstern History, RSPacS sem, Mr. H. Jianli — The Guomindang youth corps and party machinery in schools 1938-45, 12.30pm, sem rm E, Coombs.

HRC/The Faculties sem, Dr S. Bann — Representing the past: Thoughts on the poetics of historical discourse, 4pm, HRC Reading rm, A.D. Hope.

RSC/Physical & Theoretical Chemistry sem, Dr S. Scott — Autocatalytic reactions in open systems, 11am, sem rm 57, RSC.

RSC, sem, Professor E.J. Corey — New synthetic methodology, 9.30am, RSC, LT.

ANU Film Group, Monty Python, The Meaning of Life, 7.30pm, And now for something completely different, 9.15pm, Coombs LT.

Wednesday 1 August

Public Lecture, Professor Martin Broszat (Director of the Institute of Contemporary History, Munich) — The Reichskristallnacht — the turning point on the road to Holocaust, 8.15pm, Huxley LT. All welcome.

Anthropolgy, RSPacS sem, Bob Dixon — The Dyirbal kinship system and its linguistic implications, 9.30am, Nadel rm, Coombs.

Asian History/Asian Studies sem, Mr M. Comans — Advaita and Visistadvaita. A study based upon the Sanskrit text Advaitamoda, 4pm, sem rm 301, Asian Studies.

Centre for Research of Federal Financial Relations/Faculty of Economics & Commerce sem, Professor R.L. Mathews — The grants commission inquiry into the finances of the ACT, 12.30pm, sem rm 2071, Copland.

Linguistics/The Faculties sem, Dr F. Nolan — TBA, 4pm, sem rm 2135, Dedman.

Development Studies Centre, RSPacS sem, Dr G. Jones — Demographic Aspects, 12.30-2pm, sem rm B, Coombs.

Botany/The Faculties sem, Dr. P. Ladd — Late quaternary history of rainforest in Victoria, 1pm, sem rm, Botany.

History of Ideas, RSSS sem, Dr Z.A.A. Pelczynski — Hegel's concept of freedom, 11am, sem rm A, Coombs.

Public Lecture, Mr John Langmore, (Senior Private Secretary to Minister for Employment and Industrial Relations) The Economic consequence of military expenditure, 8pm, The Haydon-Allen Theatre, All welcome, Inquiries 823692 (ah).

Thursday 2 August

HRC/The Faculties sem, Professor P. Jones — Talk on the Institute of Advanced Studies at Edinburgh University, 1pm, HRC reading rm, A.D. Hope.

Australian Federation of University Women, Luncheon & talk, Dr T. Beard — Effect of salt in diet of hypertension. 12.30pm, followed by farewell to Mrs M. Auchmuty, Burgmann College.

Public Lecture, Gertrude Shope, Head of Womens Section, African National Congress, New strategies of apartheid, 8pm, Copland LT.

History, RSSS sem, Dr. J.J. Eddy — Australian nationalism 1860-1880-1900, 11am, sem rm D, Coombs.

Philosophy, RSSS sem, Dr B. Meyer — God exists, 2pm, sem rm F, Coombs.

Friday 3 August

Economic, RSSS sem, H. Pesaran — Formation of inflation expectations in British manufacturing industries, 2pm, sem rm A, Coombs.

Canberra School of Music, Violin series I, C. Pini — 6pm, Recital rm.

Women's Studies/Womens History sem, Gertrude Shope, Head of Women's Section, African National Congress — TBA, 12.30-2pm, Geoffrey Fairbairn rm, Haydon Allen.

Philosophy/Arts sem, Professor P. Jones — Hume and the Scottish enlightenment, 10am, sem rm 2097, Haydon-Allen.

Economic History, RSSS sem, I. McEwin — Wage and risk in the coal industry, 11am, sem rm 1101, Copland.

Saturday 4 August

Canberra School of Music, Oboe & Harp Recital — D. Nuttall & A. Giles, 8.15pm, University House, $2, $1.

Sunday 5 August

Canberra School of Music, Six Violin Virtuosi, Abel, Dommett, Harding, Kiss, Abe, Pini with Canberra Youth Orchestra, 1pm, $12, $6. Llewellyn Hall.

ANU Film group, Clint Eastwood, The Good, The Bad and the Ugly(R), 7.30pm, Coombs LT, No second feature.

Monday 6 August

Social Justice Project, RSSS sem, Professor C.M. Williams — The concern for social justice in the 17th century, 11am, sem rm E, Coombs.

Environmental Concerns sem, William Godfrey-Smith — Philosophy of technology, 3pm, sem rm 2097, Haydon-Allen.

Urban Research Unit, RSSS sem, Dr P. McLoughlin — Small firms: implications for urban economic development, 2pm, sem rm D, Coombs.

Canberra School of Music, Double Bass student's concert, 5.30pm, Recital rm

Environmental Biology, RSBS sem, Dr C. Critchley — TBA, 3.45pm, sem rm, RSBS.

RSC/Physical — Theoretical Chemistry Lecture course, Dr T. Thirunamachandran — Interaction of radiation with molecules. A quantum electrodynamical viewpoint, 9.30am, sem rm 57, RSC.

Sociology/The Faculties sem, D. Walsh — Durkheim's rules and the collective unconscious, 3.45pm, sem rm 2095, Haydon-Allen.

Psychology/The Faculties sem, Dr T. Shopen — Continuous and discontinuous word order in Warlpiri: A problem in language and thought, 3.30pm, sem rm 105, Top fl, Psychology bldg.

Tuesday 7 August

Canberra School of Music with Goethe Institute, Violin Series II, J. Able, 8.15pm, Llewellyn Hall.

HRC/The Faculties sem, Dr M. Rosenthal — The moral landscape in later Eighteenth Century Britain, 4pm, HRC reading rm, A.D. Hope.

Political & Social Change, RSPacS sem, Dr J. Ballard — The uses and abuses of corporatist analysis of third world politics, 11am, sem rm C, Coombs,

Canberra School of Music, Music at lunchtime — flute & viola, 12.30pm, University House, $3.50 with ploughman's lunch.

ANU Film Group, Moonlighting, 7.30pm, Walkover, 9.30pm, Coombs LT.

Wednesday 8 August

History of Ideas, RSSS sem, Dr Z.A. Pelczynski — Civil society as ethical environment, 11am, sem rm A, Coombs.

HRC/The Faculties sem, Professor G.C. Spival — Three women's texts as a critique of imperialism (Jane Eyre, Frankenstein, Wide Sargasso Sea) 1pm, HRC reading rm, A.D. Hope.

Morrison Lecture, Professor J.S. Gregory, Dept of History, La Trobe University, The Chinese and their revolutions, Coombs LT, 8.15pm, all welcome, inquiries 4144/2633.

Botany/The Faculties sem, Miss E. Kakudidi — A revision of the Australian *Enneapogon* Desv. ex P. Beav.(Poaceae), 1pm, sem rm, Botany.

Pacific & Southeast Asian History, RSPacS sem, Caroline Ralston — An evaluation of the changes in the lives of non-chiefly women in early post-contact Hawaii, 2pm, sem rm D, Coombs.

Asian History/Asian Studies sem, Emeritus Professor Basham — Origins of the doctrine of transmigration, 4pm, sem rm 301, Asian Studies.

RSC/Physical & Theoretical Chemistry Lecture course, Dr T. Thirunamachandran — Interaction of radiation with molecules. A quantam electrodynamical viewpoint, 9.30am, sem rm 57, RSC.

Thursday 9 August

Philosophy, RSSS sem, Dr R. Dunn — The possibility of weakness of the will, 2pm, sem rm F, Coombs.

History, RSSS sem. Professor A.D. Gilbert — Historians and secularisation theory: the state of the debate, 11am, sem rm D, Coombs.

ANU Film Group, Original horror, Cat People, 7.30pm, Nosferatu, 9pm, Coombs LT.

Friday 10 August

Philosophy/Arts sem, Professor G. Spivak — Varieties of deconstructive practice, 10am, sem rm 2097, Haydon-Allen.

Sunday 12 August

ANU Film Group, The Boat, All this and Rabbit stew, 1001 Rabbit tales, 1.30pm The Bugs Bunny & Road Runner movie, 3.30pm, Coombs LT.

Monday 13 August

Environmental Biology, RSBS sem, Chin Wong & Frank Dunin — Effects of short term CO_2 enrichment on the photosynthesis and transpiration ratio of trees in a forest stand at Kiola, 3.45pm, sem rm, RSBS.

RSC/Physical & Theoretical Chemistry Lecture course, Dr T. Thirunamachandran. Interaction of radiation with molecules. A quantum electrodynamical viewpoint, 9.30am, sem rm 57, RSC.

Sociology/The Faculties sem, J. Ditton — The dinosaur theory of history — a critique of the social historical approach to crime, 3.45pm, sem rm 2095, Haydon-Allen.

Psychology/The Faculties sem, K. Ritchie — Neuropsychological assessment of ammesic deficit, 3.30pm, sem rm 105, Top fl, Psychology bldg.

Tuesday 14 August

HRC/The Faculties sem, Professor P. Jones — How to read Hume? 4pm, HRC reading rm, A.D. Hope.

Research Student's Association, Thesis writing workshop series, Graphics and preparation for typist, 1pm, HRC sem rm, A.D. Hope.

RSC/Physical & Theoretical Chemistry sem, Dr R.N. Lindsay — What is the interaction between excited molecules in a molecular crystal, 11am, sem rm 57, RSC.

ANU Film Group, Passion, (Fra) (subtl) 7.30pm, Autumn Marathon (USSR) (subtl) 9.20pm, Coombs LT.

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