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EXTINCT BIRD 'GIANT'

Probably the world's largest bird ever, standing three metres high and weighing half a tonne, once inhabited Australia exclusively. Dr Pat Rich (pictured) describes this bird and its relatives in a story starting on page 3.



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Lead on rapid diagnosis of Legionnaires' Disease

A Monash microbiologist has suggested a simple, rapid technique, capable of widespread laboratory use, for diagnosing Legionnaires' Disease.

Professor Solomon Faine, chairman of the Microbiology department, describes the technique in a paper to be published this month in the US-based *Journal of Clinical Microbiology*.

It involves the gathering of information on bacteria present in a suspected sufferer by silver staining (i.e. staining with silver nitrate) a sample of his exudate (spit, for example). This staining process enables the microbiologist to identify tissue details.

Professor Faine says it is a "presumptive" method of diagnosis. That is, results from the tests can strongly suggest presence of the disease rather than positively identify it. The advantage of the method is that it can be done speedily and without expensive equipment and will point to Legionnaires' Disease in all its local strains.

The procedure is not new as such other than in its application to the diagnosis of Legionnaires' Disease. It was developed by Professor Faine a number of years ago in work on another research project in which he sought to stain spirochetes — spiral bacteria — in tissues.

Complex methods

Professor Faine says that the chief method of diagnosing the disease at the moment is by means of immuno-fluorescence. This method calls for sophisticated equipment not always available in diagnostic laboratories especially in smaller centres and developing countries. It also requires the use of reagents effective for each of the strains. Local strains anywhere may be different from those already recognised for which reagents are available.

Professor Faine spent part of his study leave last year in the US working on diagnostic techniques for Legionnaires' Disease with a group in Infectious Diseases at the Wadsworth Veterans Hospital. As a result of his interest and involvement in the subject he was invited to Atlanta, Georgia, in November to participate in an international symposium on Legionnaires' Disease.

To date about six deaths are

thought to have been caused by the disease in Australia.

He says that what is urgently needed in this country as an early warning against an outbreak of not only Legionnaires' but any other infectious disease, is a sound epidemiological reporting service for surveillance.

The Federal Health Department provides an embryonic service along these lines but it is not in the same class as the *Morbidity and Mortality Weekly Report* published by the Center for Disease Control in Atlanta.

"At the moment we could have an epidemic of Legionnaires' Disease in Australia without really knowing about it," he says.

Legionnaires' Disease is a severe respiratory disease — a progressive pneumonia — which was first recognised in an epidemic when 182 people fell victim at a congress of the American Legion (an organisation similar to the RSL) in Philadelphia in July 1976. Twenty-nine of the patients died.

Other epidemics have occurred — there have been about 12 in the US — and the one among members of the American Legion was not the first. Because of the nature of that body, however, attention was focused on the epidemic there.

Medical knowledge of the disease has increased considerably in the last three years.

The bacterium which causes the disease, *Legionella pneumophila*, has been identified and grown.

It is believed that the bacterium lives in soil, probably moist soil. It is not a new microorganism. Researchers believe that it has been in existence but unrecognised for a long time and that a particular set of circumstances has enabled it now to produce a recognisable disease.

These are some aspects research has revealed about the disease:

- It has an attack rate of about 2 to 2.5 per cent.
- Data suggests that it might account for up to 4 per cent of undiagnosed cases of pneumonia.

● It is not highly contagious. There is little evidence of human-to-human spread although tests have shown that hospital personnel handling patients can have a higher prevalence of antibody than other population groups suggesting that infection by human contact may be possible.

● Like other pulmonary infections, factors which place people at risk include alcohol, cigarette smoke, the taking of immunosuppressive agents and various atmospheric pollutants.

Professor Faine says that an interesting factor which has emerged is the role of air handling equipment or air conditioning in transmitting the disease.

It has been suggested that an air conditioner may trap contaminated dust or dirt in which the bacterium lives. The temperature and humidity may encourage the persistence or the growth of the organism, particularly in the cooling water of evaporators.

Air conditioners generate small particle aerosols which are likely to be more highly infectious than larger droplets.

Legionnaires' Disease attacks the lungs primarily but can also attack the kidneys and liver. When diagnosed, it can be effectively treated with the drug, erythromycin.

Microbiology digs in



The Microbiology department barbecue invitation read BYOS. The "S" stood for Snags, Steak, Something to Sip ... and Shovels.

The shovels were to turn the first sod on the site of the Microbiology building to be constructed on campus west of the Science block.

The building is expected to be completed in 1981 and its occupation then will mark the end of a 10 year wait for the department caused by funding delays. The department is currently housed in the Monash Medical School at the Alfred (where part of it will stay).

Architects for the two level building are John F. D. Scarborough and Partners Pty Ltd and the builders Prentice Builders Pty Ltd.

● ABOVE: Digging in are Dr E. Westaway, Mrs Juliene Prpic, Dr Ron Beyly and Professor Solomon Faine. RIGHT: Refreshments afterwards. Photos: Herve Allseume.



All systems 'go' for Open Day

Open Day is almost here.

On Saturday, August 4, a general invitation is extended to members of the public and intending students to visit Monash (between 10 a.m. and 5 p.m.) to find out a little bit about just how a university works.

Planning for the range of activities offered is now entering final stages, and a full program will be available shortly.

This program will include course and careers counselling, as well as departmental and club displays and exhibitions, films and tours of various University facilities.

Open Day Director, Rick Belshaw, pointed out that, as in previous years, a main emphasis will be to introduce secondary school students to the University. He is particularly keen to see students from nearby schools taking the opportunity to come to Monash.

Nearly 70 departments and organisations and more than 30 clubs and societies will be taking part in Open Day — Monash's 12th.



Open Day departmental representatives hold a general discussion session to review progress on planning.

Marvel, mystery: Einstein's work had all that

"The most beautiful experience we can have is the mysterious . . . Whoever does not know it and can no longer wonder, no longer marvel, is as good as dead, and his eyes are dimmed."

So wrote Albert Einstein, who revolutionised physics and our understanding of the Universe with his Special and General Relativity theories.

Professor William H. McCrea, professor emeritus in the Astronomy Centre, University of Sussex, organiser of the Royal Society's Albert Einstein centenary celebrations and a world authority on relativity and cosmology, recently visited Monash University at the invitation of Dr Andrew Prentice to give a series of lectures to coincide with the centenary of Einstein's birth.

Professor McCrea, is well known also for his own work on the origin of the Solar System and his theory that climatic changes, such as the great Ice Ages of the past, could have been triggered by the passage of the Solar System through dust clouds in the spiralling "arms" of our Galaxy.

Professor McCrea told a Science Faculty audience at Monash that Einstein took as his ideas "kindness, beauty and truth."

The world, he said, can still revere the memory of a very great man whom it saw to live up to those simple ideals.

Einstein's first paper on light-quanta or photons, he said, determined the way in which physicist thinks about radiation — light, heat, radio, x-rays and gamma rays.

It laid the foundation for the quantum theory, the greatest ever revolution in physics.

Einstein's first paper on Brownian

motion — the random motion of a particle suspended in a fluid, caused by the action of invisible atoms or molecules — established the way in which every physicist thinks quantitatively about the constitution of matter.

His third paper on the electrodynamics of moving bodies, summed up in 1905 in the famous equation $E=mc^2$, which stated the equivalence of mass and energy, became "a sort of call-signal of relativity."

"The third paper and its sequel control the form of every calculation that physicists make about every single phenomenon involving anything that moves at speed comparable with light-speed", Professor McCrea said.

"Together those papers settled the basic form of physical science from that time forth. They were the immediate outcome of one year's work by a 26-year-old patent-office clerk working on his own in his spare time.

"Any good physicist at the time might have done any of these things — and some actually had done much more than Einstein appreciated.

"What is so miraculous is that one young man, who had scarcely yet earned the name of physicist, did the lot.

"It was rather as though some young fellow from nowhere had climbed Everest, swum the Channel, and beaten the 4-minute mile all in the same season."

Einstein's paper on General Relativity, published in 1916, in which he



● Dr Prentice (left) and Professor William McCrea

argued that gravity is caused not by a force but by the warping of four-dimensional space-time by matter, is regarded as the starting point of the modern science of mathematical cosmology.

The subsequent development of relativistic cosmology over the past 60 years has produced fundamental insights into the physical history of the Universe, and of the nature of physical science itself.

The route to this theory was "arduous, roundabout and frankly lucky", Professor McCrea said.

It was triggered by Einstein's inability to bring Newton's theory of gravitation, with its concepts of 3-dimensional space and universal time, into special relativity theory, with its ideas of four-dimensional space-time.

With the help of some sophisticated mathematics developed by Minkowski and Riemann, Einstein "stumbled upon equations that presented him with an entirely novel mathematical treatment of gravitation."

As well as explaining planetary motion, he said, Einstein's theory predicted gravitational redshift (the shift of light to the red end of the spectrum in an intense gravitational field) and the bending of light in a gravitational field, for example, as it passes the Sun.

"For Einstein himself, those marvellous years 1905 and 1916 were followed by no third most marvellous year", Professor McCrea said.

From about 1928 until his death Einstein devoted himself almost exclusively to the fruitless quest for a unified field theory — an attempt to

reconcile relativity with the rest of physics.

"Certain developments in basic physics in very recent years seem to be in the spirit — if not in the footsteps — of Einstein's dedicated search", Professor McCrea said.

"But anyone who will do for Einsteinian physics anything comparable to what Einstein did for Newtonian physics will be such a colossus that we may have to wait a thousand, not just another hundred, years before we see him."

Space talk

Senior lecturer in Mathematics, Dr Andrew Prentice, will give a public lecture on Thursday, July 5 on "Jupiter's Rocky Rings".

The rings are of particular interest to Dr Prentice. In connection with his work on developing a theory about the beginnings of our solar system he predicted several years ago that Jupiter had a rocky satellite belt. Such a belt was detected by the Voyager I probe early this year.

Dr Prentice has predicted that future space probes will reveal two new satellite belts around Uranus and a new ring around Saturn.

His lecture, organised by the Astronomical Society, will be held in lecture theatre S3 starting at 1.15 p.m.

The Astronomical Society will mark the 10th anniversary of man's first voyage to the Moon, aboard Apollo II, with a free space films evening. The films will be screened in lecture theatre H6 on Tuesday, July 17 at 8 p.m.

A new look at some ancient Australian birds

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

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

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

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

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

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

"More ponderous" than the emu

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

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

She says: "In fact it might be that the birds went extinct much more recently.

"We know there was none when European settlers arrived.

"But traditions have been noted among the Tjapwurong Aboriginal tribe in western Victoria concerning 'mihirung paringmal' or giant emus which are said to have lived 'long ago' when the volcanic hills of that region were in eruption. Volcanic flows are known to have occurred there as recently as six or seven thousand years ago."

Dr Rich says that our knowledge of dromornithids stems mainly from

bones which have been recovered from scattered fossil sites throughout Australia (including, close to home, Lancefield), from footprints discovered in Tasmania and Victoria, and possibly from an egg the size of a football found in the sand dunes near the Scott River in Western Australia, as well as fragments of an egg shell found in South Australia. While the bones have been positively identified as belonging to dromornithids a question mark hangs over the footprints and eggs.

The first convincing evidence of the former presence of giant ground birds in Australia resulted from Major Mitchell's exploration and survey work in the Wellington Valley of New South Wales in the 1830s. He recovered a very large bone (now lost but most likely a dromornithid as suggested by size and shape depicted in a drawing in his accounts) from a limestone cave. The bone gave way after a member of his party attached a rope to it believing it to be a projecting portion of rock.

The most significant dromornithid find occurred at Lake Callabonna in South Australia at the end of last century. Bones were first discovered there in 1892 and the area excavated by a team from the South Australian Museum later in the decade.

The site yielded articulated remains: animals which had come to the lake to drink had obviously become bogged in the mud and their remains had not been greatly disturbed.

The best dromornithid material excavated was of the medium-sized species, *Genyornis newtoni*, of which today there is the most complete skeleton, including a partial skull, of any member of the family. Such a skeleton, reconstructed by Dr Rich and K. Kelley, has been placed on display at the National Museum of Victoria recently.

Joint US-Australian team resumes search

No further work was carried out at Lake Callabonna until the 1950s when Dr R. A. Stirton, from the University of California (Berkeley), led a team of Australian and American palaeontologists there.

(Dr Rich was a student of Dr Stirton who kindled her interest in dromornithids.)

Co-operative efforts by museums

● Dromornithid remains date from 20 million years ago but the fossil record proves that birds have a much longer history on this continent.

Fossil feathers recovered from lake sediments at Koonwarra in southern Victoria are at least 120 million years old and are among the oldest records of birds anywhere in the world. Fossil penguins from south-eastern Australia, including a gigantic form which stood 1.4m high, date from 40 to 50 million years ago.



and university departments in several states have discovered other material since.

Dr Rich says that what has been found enables a clear reconstruction of what mihirungs were like from the neck down. She says that what is needed now is good cranial material which would give real insight into the relationship of this group to other large ground birds such as emus and ostriches.

She speculates that the dromornithids were herbivores or, possibly, omnivores: they did not have hooked claws on their feet or a hook on their bills as do most carnivorous birds.

She speculates, too, as to why they died out.

She says: "A debate goes on about the effect of man compared with the effect of climate.

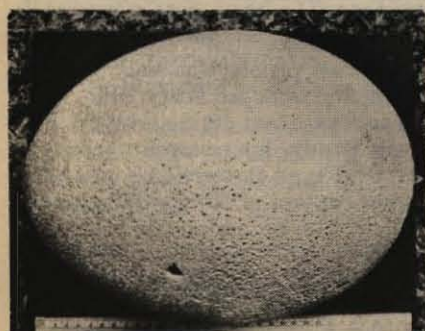
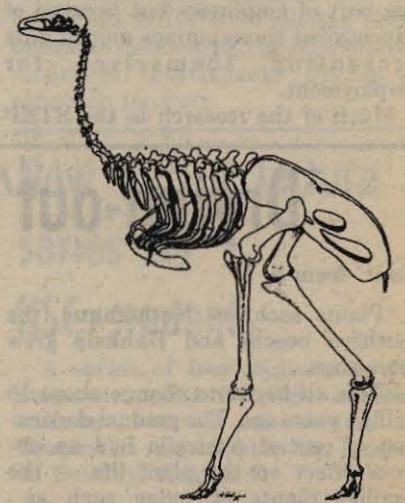
"I don't think that man would have been the primary reason for the bird's extinction. He may have played an important role by killing off some once the numbers had begun to dwindle although we have no direct evidence of this. Climatic changes, which saw the gradual dessication of central Australia, would seem to have been the trigger."

The central Australia that dromornithids were known to have inhabited 20 million years ago was a wetter and more thickly vegetated place than it is today.

Dr Rich says: "Australia, which is believed to have been part of the Antarctic land mass until about 50 to 55 million years ago, was at that time further south than it is positioned today. Rainfall in the central area was more dependable then with enough rain even in the worst seasons to guarantee a water supply in permanent lakes.

ABOVE: Dr Pat Rich contrasts the size of a femur of one of the smaller forms of dromornithid (right) with a similar bone from a present day emu. Photo: Rick Crompton.

BELOW: A reconstruction of the skeleton of *Genyornis newtoni* which stood about two metres tall. BOTTOM: Believed trackway of a dromornithid found in Tasmania.



This egg, found in coastal dunes in south-west Western Australia, is believed to be that of a dromornithid. A 12 ins. ruler is below.



The breast bone of *Dromornis stirtoni* — probably the largest bird ever to inhabit the earth.



Continued overleaf

A STEP forward in education planning

"As our society becomes more complicated and technologically based, more people with good levels of numeracy will be required", writes Shell Company executive Mr Alan Wilkinson in his foreword to STEP, the education survey which has just been published by Monash.

STEP, the Secondary-Tertiary Education Planning Project, which began in the Careers and Appointments Office at Monash five years ago, explores such questions as:

Has there been a decline in the quality and flexibility of secondary education? Is there a need for a core curriculum? Are entrance requirements for tertiary institutions unfair and unreal?

The preliminary STEP report covering secondary education for the years 1975-77 has now been published and is being distributed to secondary schools, Government departments and industry.

Publication of the report has been funded by the Shell Company of Australia Ltd.

Mr Wilkinson, the company's Personnel and Public Affairs Director, makes the point in his foreword that if the present swing away from rigorous studies in mathematics and the physical sciences continues, we may soon experience a shortage of men and women needed to maintain a high technology economy. "It is especially disturbing to find that girls display a greater movement away from maths and science than do boys," he says.

"This trend must inevitably result in an inequality of opportunity for the sexes, not because of any prejudice on the part of employers but because of educational shortcomings among girls presenting themselves for employment."

Much of the research in the STEP



report was carried out by Mr Barry Walsh, a Monash careers counsellor, with Mr Warren Mann, who was Careers and Appointments Officer at Monash until his retirement earlier this year.

They have had help and co-operation from a number of different sources including the Victorian Education Department's Planning Services Division, the Commonwealth Public Service Board, Professor W. D. Borrie of the National Population Inquiry, the Victorian Universities and Schools Examinations Board, the Victorian Universities Admissions Committee, the Schools Commission and individual academics and educationists.

The Computer Centre at Monash assisted with the compilation and analysis of data.

According to Mr Walsh, the STEP project grew out of an awareness of the lack of data needed for co-ordinated planning at the secondary and tertiary levels of education and for understanding the relationship between education and employment.

Brain-drain warning

In expenditure on research, Australia stands badly for a nation with its high national income.

Monash professor of history, Professor A. G. L. Shaw, said this while delivering the occasional address at a recent Arts and Education graduation ceremony.

Professor Shaw warned that if Australia allowed a "brain drain" of its ablest scholars to research establishments overseas the nation's future development would be affected adversely and it would be impoverished intellectually.

He urged the graduates to be vigilant against financial threats to intellectual activities, manifested in such actions as cuts to research funding and the recently proposed, then abandoned, tax on imported books and periodicals.

Professor Shaw said: "According to the latest figures that are available, among the democratic countries expenditure on research in Australia per head of population was less than half that of the USA and significantly less than that of Germany, Sweden, France and the Netherlands; as a percentage of the national income, it was barely half that of the USA, UK and Germany, and significantly less than that of Sweden, France, the Netherlands and Japan.

"Since that time, as far as can be estimated, government expenditure on research in this country — and that includes payments for research to universities and similar institutions — has been reduced by about a quarter, and 'private' research expenditure, that is, by companies and such like, has fallen, in real terms, by about 40 per cent.

"At Monash, the number of graduate research scholarships has fallen proportionately.

"That the quality of our research is high is generally conceded, but the quantity is too small, and in due course this will necessarily result in a greater reliance on imported technology, an increasing brain drain as our ablest scholars proceed overseas to carry out research programs for which they cannot get funds here, and an inability in the universities to train their best graduates in research techniques, which will in turn naturally lead to poorer research in the next generation.

"Materially, this will adversely affect our future development and it will, of course, also impoverish it intellectually. It would be unfortunate if we were to return to the situation that existed not so very long ago that Australians virtually had to go overseas if they wished to undertake graduate work. Though this is certainly unlikely, it remains true that our graduate schools are at the moment suffering severely. The Williams report on education and training lamented this."

Professor Shaw continued: "On a personal note, I recently attended a conference on how we might use science and technology to help the 'undeveloped nations' — a preliminary to an international intergovernment conference to be held at Vienna. Needless to say we cannot offer any help to others if our own science and technology is not being kept up to date by research."

Memorial to Ian Turner

The Monash History department will establish a Prize as a memorial to Associate Professor Ian Turner who died on December 27 last year.

Council has approved the setting up of The Ian Turner Memorial Prize in memory of a man who contributed much to the University. Donations are being sought from people who would like to share in this memorial to Ian.

The department hopes that sufficient funds will be collected to allow a \$100 prize to be awarded annually for the best thesis submitted by a student sitting for final examinations for a BA with honours in History or for the MA Preliminary examination in History.

The department says the award "will be a reminder of Ian's great interest in the teaching and writing of history and the high standard he looked for in all aspects of students' work".

Contributions, which must be made payable to Monash University, and which will be tax deductible if shown in tax returns as being made to The Ian Turner Memorial Prize, may be sent to the Chairman of the History department, Professor A. G. L. Shaw. It is important to specify that the donation is for the Ian Turner Memorial Prize and that the signature should be legible or the name of the donor printed underneath.

... His work goes ahead

The major project on which Ian Turner was working at the time of his death — a history of sport in Australia — will be completed for publication.

The work will be finished by two people associated with Ian Turner on the project, with the aid of a \$1500 grant made in the second round of special research grant allocations recently.

The emphasis of the work is on a history of Australian Rules football, a passion of the late associate professor of History at Monash, Ian Turner, who suffered a heart attack while playing cricket late last year, is perhaps best remembered by the general public for his series of Barassi Memorial Lectures

and for his newspaper articles on Aussie Rules. As well as a keen interest in the here-and-now of the game, Ian had a scholarly interest in it as part of popular culture.

The two people who will be completing the work are Terry King, Ian's research assistant during last year, and Mary Brady, his research worker "in the field", as it were, as wife of a former captain of North Melbourne.

They will be adding to his partly finished manuscript from the notes and other documents he left. Their work is expected to take about two months.

The grant is one of 71 made to departments throughout the University in the second round of allocations.

'Drying-out' spelt doom

Cont. from p. 3

"Plants such as *Nothofagus* (the southern beech) and *Banksia* grew there then.

"This all began to change about 15 million years ago. The gradual dessication of central Australia had an obvious effect on the plant life — the familiar plants of today such as *Eucalyptus* and *Acacia* increased in dominance — with a further effect on life forms down the food chain, including dromornithids."

They were not the only total victims. Flamingoes, for example, inhabited much of central Australia for a span of at least 20 million years before dying out.

Dr Rich points to another result of a study such as hers other than to understand the overall structure (morphology) of the dromornithids and to attempt to reconstruct their lifestyle.

She says: "We are able to build up a system which allows relative dating of terrestrial rocks in central Australia where marine and plant fossils are often not present.

"Many of these rock sequences cannot be absolutely dated using radioactive techniques such as the Potassium-Argon method.



A painting of what the medium-sized mihirung, *Genyornis newtoni*, could have looked like.

"By understanding what kinds of vertebrates such as birds and marsupials occurred together and in what order they occurred we can ultimately 'date' rocks relative to one another. This is a needed tool for geological mapping and a needed tool for understanding the history of the Australian continent."

Wages explosion = unemployment?

It doesn't equate, say Monash economists

Two Monash economists have challenged Federal Government thinking that the explosion in real wages of 1974 was the chief source of Australia's current high levels of unemployment.

Reader in Economics, Dr P. A. Riach, and lecturer, Dr G. M. Richards, are particularly critical of the Government's argument, in its November 1977 National Wage submission, that real wage reduction by only partial indexation of wages would induce more labor-intensive practices.

Drs Riach and Richards make their criticisms in a paper, "The Lesson of the Cameron Experiment", published last month in *Australian Economic Papers*.

They say that during the past four years the Commonwealth Government has asserted incessantly that the marked shift in the distribution of national income from profits to wages, which occurred in 1974, was the chief cause of the current economic recession.

They say that the proponents of this position, in their haste to attribute blame, have failed to consider just how such a dramatic shift in the wage share came about.

They suggest it is simplistic to equate rapid money wage increases with a greater share of wages in the national income.

The two economists say that, in fact, it was a "very rare event" for the wage increases of 1974 to manifest themselves in a higher wage share.

They add that it is vital to appreciate that the wage increases occurred in conjunction with other factors operating in the product market to constrain price increases.

The "Cameron" of their paper's title refers to Clyde Cameron, Minister for

Labour in 1974. Principal responsibility for the stimulation of the money wage explosion in that year has been attributed by some commentators in the media to Mr Cameron. In particular he vigorously supported key wage claims before wage-fixing tribunals in areas such as the minimum wage and equal pay for females.

A "rare event"

Speaking about their paper, Drs Riach and Richards say: "While money wage rates did rise rapidly in 1974 both economic theory and economic history indicate that it is a rare event for such a rapid money wage increase to manifest itself in a higher wage share, that is, the dreaded 'real wage overhang'.

"Theoretically this is so because it is to be expected usually that when economic conditions favor wage rises in the labor market they also favor price increases in the product market.

"The historical record for many capitalist economies provides little, if any, evidence that rapid money wage increases are associated with increases in the wage share.

"The most famous occasion when politico-economic engineering failed to shift the distribution of income toward labor occurred in France in 1936/37. In what has become known as the Blum Experiment, the Popular Front Government of Leon Blum, by direct initiative and encouragement of trade union activity, generated a 60 per cent

increase in hourly wage costs within a 12 month period.

"This did not produce a higher share of wages in national income, however. Industrialists were able to raise their prices by a comparable percentage."

Drs Riach and Richards acknowledge that there was an increase in both unemployment and the wage share in the mid '70s.

"But it does not necessarily follow that there was a simple causal connection as the Commonwealth Government asserts," they say.

"The more fundamental issue to investigate is the circumstances which enabled such an increase in the wage share."

They argue that the increased wage share resulted from a rare conjunction of strong institutional pressures by government and trade unions in the labor market and what is termed a "hard product market environment" which acted to prevent firms fully passing cost increases on in the form of higher prices.

This hard product market environment was generated by government policies which increased competition and depressed product demand.

Among these policies were:

- Appreciation of the exchange rate.
- Tariff reduction.
- Strengthening of trade practices legislation.
- Establishment of the Prices Justification Tribunal.
- A severe contraction of the money supply.

They say: "While any one of these factors alone is likely to have impeded a firm in raising prices to maintain profit margins in the face of severe cost increases, the combined effects of all of them appear undeniable."

The Monash economists claim that these very factors operating in the product market to constrain price increases simultaneously depressed the level of economic activity and created unemployment.

They say there are clear policy implications in this alternative interpretation.

"Government action confined to the labor market, in the form of pressure on the Arbitration Commission to adopt partial indexation, will prove quite ineffective as a means of restoring the level of employment.

"We are particularly critical of the Commonwealth's argument that real wage reduction would induce more labor intensive practices, that is, more employment for any given level of output."

They argue, instead, that as depressed conditions in the product market were an essential ingredient in the joint creation of unemployment and an increased wage share some moderate stimulus to the product market is called for in their reversal.

They continue: "It is recognised that principal opposition to such stimulus comes from those who fear that in-

flationary consequences would flow from the restoration of trade union bargaining power.

"However, if this is a reason for not expanding demand now it is a reason for never expanding demand and accepting permanently high levels of unemployment."

The two economists acknowledge the need for policies which would moderate any inflationary impact of demand expansion.

Indexation the most promising procedure

They argue that wage indexation is the most promising procedure available to achieve this end but that Australia's multi-tier system of wage determination is inconsistent with the rationale of indexation.

They say: "We would recommend that consideration be given to industrial relations reform aimed at minimising the ability of unions to have two bites of the cherry — obtaining wage increases by both arbitration and collective bargaining.

"However, sensible modifications in industrial relations systems come only slowly and evolve out of discussion and mutual trust rather than unilaterally by the statute book."

Drs Riach and Richards also advocate an active labor market policy aimed at minimising the emergence of structural bottlenecks during an economic recovery.

Now . . . a lecture series for HSC students

A series of free lectures on key economic topics for HSC students will be given by members of the Economics department at Monash on Sunday, August 5.

The lectures will begin at 9.45 and end at 4.30 p.m. and will be held in Robert Blackwood Hall.

The program for the day is: 9.45 a.m., Economic Systems; Capitalism and Socialism, Dr I. Ward; 11.15 a.m., Economic Growth and Economic Welfare, Dr M. Watts; 12.15 p.m., Economic Problems of the Third World, Dr D. Lim; 2.30 p.m., Inflation and Unemployment: Some Current Controversies, Mr L. McGregor; 3.30 p.m. The Market Mechanism in Australia, Mr G. Hogbin.

Members of the department's lecturing staff will be available for informal discussion during the lunch break.

Last year the Economics lecture series was given on a Sunday for the first time and attracted about 1000 people.

For further information contact Mrs B. Jorgensen-Dahl on ext. 2337 or Dr G. M. Richards on ext. 2308.

Putting a smile on the face of statistics

Two Monash economics authors may soon be figuring prominently (so to speak) on Russian academic book best seller lists.

The book *Statistical Distributions*, by Professor Nick Hastings and Dr Brian Peacock, of the department of Econometrics and Operations Research, is being translated by Dr A. Zvonkin for publication by the Moscow Statistika publishing house.

But Professor Hastings cautions that it isn't a book every Muscovite will be curling up with by the fireside, glass of vodka in hand.

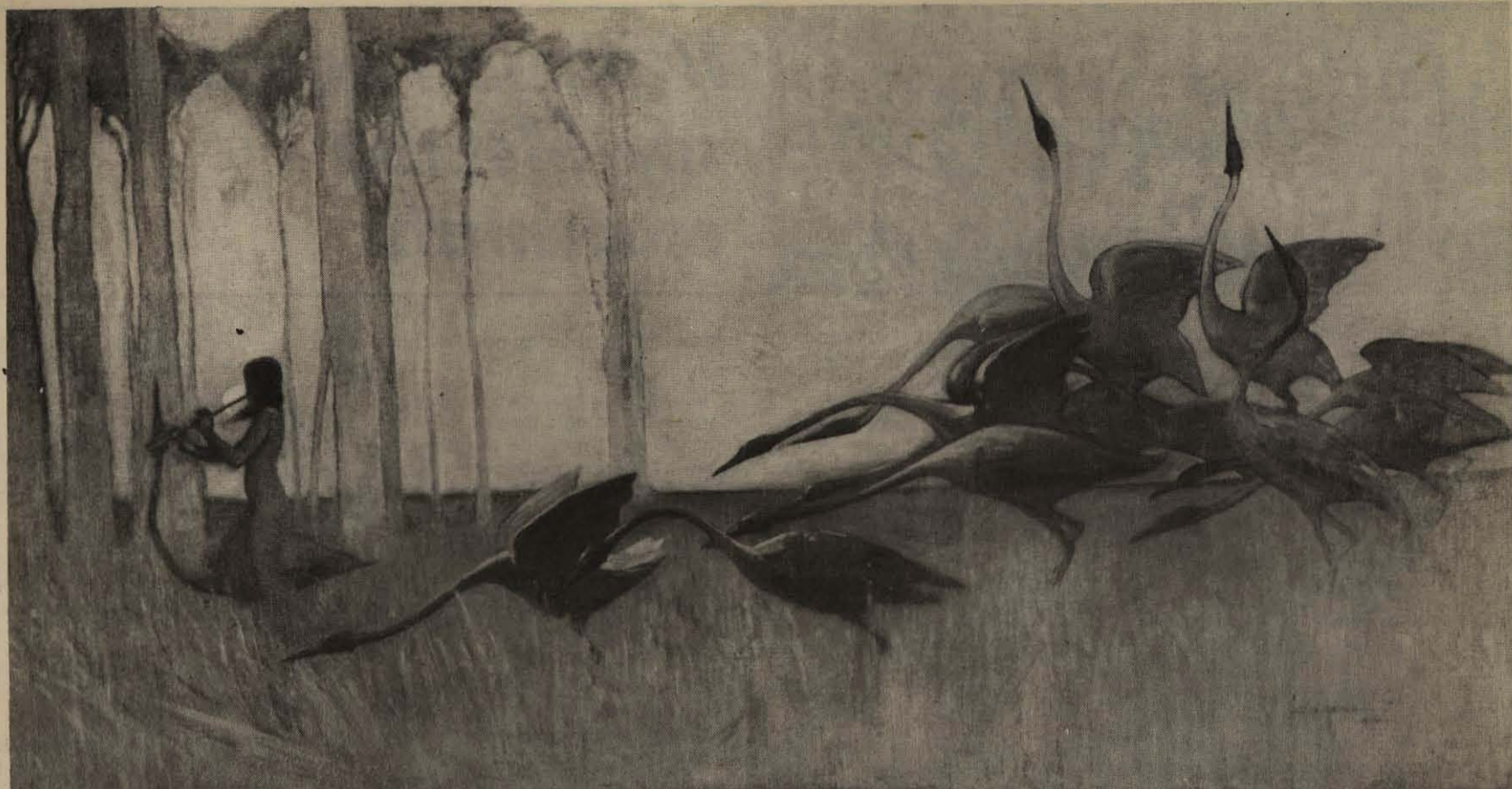
He says: "It is a cheerful little book with a smile on its face and it has been very successful. While I cannot recommend it as bedtime reading it is certainly proving very popular with students and practitioners in statistics."

Originally published by Butterworths, London, in 1975 and later

reprinted by Wiley/Halstead, New York, for North American distribution, the book gives a concise summary of leading facts, formulae and diagrams relating to 25 of the most widely used statistical distributions. These range from the well-known Normal and Poisson through to the more specialised Cauchy and Weibull distributions.

Professor Hastings says that the 125-page book has been designed to fill a need for rapid access to information which must otherwise be gleaned from scattered and individually expensive sources.

He says: "Its main technical advantages lie in the use of a consistent system of description and nomenclature covering not only the individual distributions but also the inter-relationship between them — an area which is often obscure to the non-specialist."



Sydney Long 1878-1955
The Spirit of the Plains (2nd Version). 1914
 Oil on canvas 76.8 x 153.7 cm.

Sydney Long tended to populate the Australian bush with figures derived from the pastoral myths of Ancient Greece; and as time went by a strong influence from the Art Nouveau style caused him to transform the visual realities of the landscape into graceful, sinuous and rhythmic decorations. The first version of "The Spirit of the Plains" painted in 1897 shows how powerfully the Art Nouveau style had influenced him. Seventeen years later, he painted a second version and the variations, though interesting, are sufficiently minor to show that he had not abandoned the style. The main tendency in the later painting has been towards simplification. The corps de ballet has been reduced by one to 13 and the choreography is different, but they have been strongly modelled in tone to give them a sharper reality and the onward thrust of the dance movement has been emphasised by a closer linking of the rhythms.



Violet Teague 1872-1951

The Boy with the Palette. 1911
 Oil on canvas 175.5 x 108.5 cm.
 Born in 1872 **Violet Teague** began her art studies at the National Gallery School, Melbourne in 1895, then at the Melbourne Art School under Emanuel Phillips Fox before continuing her studies in Brussels and at Herkomer's School in England. "The Boy with the Palette" is painted in an academic style with very little trace of the Art Nouveau that is often found in her work. It was awarded a Silver Medal at the Paris Salon in 1920 and exhibited at the Royal Academy the following year. The painting came to the National Collection as a gift of U.S. Teague.



Paul
Atala

Margaret Pres
Watermelon. 1911
 Oil on canvas
 Born in Adelaide
 studied at the
 the Melbourne
 Bernard Hall; a
 design is always
 All her work is
 but like all
 backbone of her
 study and keen



Works from the Australian Gallery on show at Monash

A touring exhibition of works from the collection of the Australian National Gallery, titled **Aspects of Australian Art 1900-1940**, is being held currently in the Visual Arts exhibition gallery on campus.

The exhibition does not claim to be a definitive survey of the period but "aims at bringing together a group of works that will demonstrate the main line development and principal characteristics of the time".

There are 80 works in the exhibition which is on a tour of cities as far flung as Darwin, Fremantle and Devonport.

Artists represented

Among the artists represented are **Max Meldrum, Hugh Ramsay, Bernard Hall, Frederick McCubbin, Rupert Bunny, Sir Hans Heysen, Will Ashton, William Frater, Roy de Maistre, Grace Crowley and Sidney Nolan.**

The visiting curator of Australian art at the Australian National Gallery, **James Gleeson**, says that the 40 year period covered by the exhibition has generally been regarded as a trough in Australian art, standing between the peaks of the Heidelberg School and the Australian form of Impressionism, and the emergent modernism, the "heroic" years of Australian art.

Gleeson says: "From another point of view the 'trough' can be interpreted as an hiatus between two distinct but different forms of nationalism.

"The nationalism of the '90s was a conscious artistic objective, it was rurally orientated, confidently extroverted, innovative in its recognition and acceptance of specifically Australian characteristics, and it expressed the feeling of independence that led up to the proclamation of the Commonwealth in 1901.

"A very different sort of nationalism emerged under the war clouds of the 1940s, pregnant as they were with the nuclear age.

"A rapid growth in the cities shifted the emphasis to urban themes. The general mood was introspective, anxious, uncertain and subjective, and no doubt this was encouraged by the depression of the 1930s.

"It was the various currents and eddies that swirled through these years that gave Australian art a richness and a variety it had never previously had. It was the end of an era and a beginning and it was the tensions created by this condition that introduced a new and seminal complexity and sophistication into Australian art."

The exhibition will be at Monash, its only Melbourne stop, until July 21. The Visual Arts exhibition gallery is on the seventh floor of the Menzies Building.

Hugh Ramsay 1877-1906

Portrait of Miss Nellie Patterson
Oil on canvas 137.5 x 107 cm

When **Hugh Ramsay** died in 1906 at the age of 29, Australia lost a first-rate artist. Ramsay's strength lay in his ability to assess the character of his sitter and to express it by virtue of a masterly technique.

In the Portrait of Nellie Patterson, the brush has been used with a flourish and a virtuosity very close to that of Sargent.

Nellie Patterson was a niece of the singer Dame Nellie Melba and in a letter she wrote: "The frock was made in Paris under instructions from my Aunt Melba. The chair is interesting as it was one of many made especially for the Vice Regal Party in the Melbourne Town Hall on the occasion of Melba's homecoming concert, after her initial success abroad."

ford (1868-1938)
defeated

375-1963

56.8 cm
1975, **Margaret Preston**
of Design, Adelaide;
al Gallery School under
Munich and Paris. Her
vigorous and inventive.
ially decorative in aim,
rati. rt it has a firm
ge formed from close
vation.



Energy for the future

Vic. coal-to-oil plant by '90s

A Monash chemist has said it is realistic to expect that Victoria will have a brown coal-to-liquid fuel conversion plant producing 30,000 barrels a day by the early 1990s.

But senior lecturer, Dr Frank Larkins, told a meeting of Victorian science teachers at Monash recently that considerable chemical and technological problems remained to be solved before such a plant could be set up.

Dr Larkins said: "Following increased research activity in this field in recent years, significant progress has been made towards evaluating the potential of Australia's coal resources for liquefaction purposes. Much more research remains to be done."

He said that of three possible coal conversion technologies, direct catalysed hydrogenation appeared to be the most economically favorable for Victorian brown coal deposits.

He said that the demand for coal and the effect of this new technology on the environment would be significant.

A plant producing 30,000 barrels a day would require at least 10 million tonnes of coal a year and cost hundreds of millions of dollars to build.

"Such a plant would satisfy about one-sixth of Victoria's current daily consumption of petroleum products," he said.

"If half of Victoria's current consumption was produced this way (that is, 90,000 barrels a day) a mining operation equal to the current one for electricity generation would be required."

Great challenge

Dr Larkins made his comments on coal liquefaction as part of a survey of energy production in Victoria and discussion of future alternative technologies. He said that the provision of adequate transport fuel was one of the great scientific and engineering challenges of the next decade.

For electricity generation, the real alternatives in the foreseeable future were nuclear, solar and wind processes while in the longer term fusion and wave technologies had much promise, he said.

But Dr Larkins said that much research was needed to overcome problems associated with each of these methods. And he urged a greater government commitment.

In the case of solar energy he said that the chemical as well as physical technologies of solar radiation collection and storage must be pursued with much greater vigor.

"Increased government spending in Victoria beyond the \$0.5 to 1 million per year currently invested is required."

He urged, too, that the Government give incentive for the use of solar devices in the home, industry and commerce to make them economically competitive.

"A solar energy industry could mean a major boost to the economy, providing much needed jobs in manufacturing and construction. The export potential for efficient solar devices is also high."

He warned that the environmental and social problems associated with solar energy generation should not be underestimated. Aesthetic considerations and so-called "sun rights" — the right of access to sunlight and to be free, say, from a neighbour's shading — could become significant factors.

Dr Larkins said that with economic alternative methods for power generation Victoria should be able to substantially by-pass the nuclear option with its problems of reactor safety and radioactive waste management.

He said that the "dream" for the long term was that nuclear fusion would provide an inexhaustible supply of energy, a "sun in captivity".



● Several solar energy research projects are underway at Monash — some with a refreshing spinoff for participants!

SOLAR ENERGY PIONEERS BUT WE ARE NOW BEHIND

From being a pioneer in the use of solar energy in the 1950s and 1960s, Australia has now fallen well behind, says Mr Robert Gani, senior lecturer in Mechanical Engineering.

Mr Gani recently returned from study leave at C.S.I.R.O. and in the United States. The major part of his overseas study leave was spent at the Los Alamos Scientific Laboratories in New Mexico.

"From my experience, the USA and Germany are at a higher level of competence", he says.

"From the relevant literature a number of other countries including Japan, Mexico, France, Italy and Israel may also be ahead of us."

Mr Gani says the lead that the United States and Germany have in solar energy research has nothing to do with the calibre of the researchers.

It is the result of their governments' coherent solar research programs and the amount of research funding.

"The USA, in particular, is spending hundreds of millions of dollars in solar energy research," he says.

"And although one may quibble about the value of each project funded, there is no doubt at all of the tremendous pace of advances in many parallel fields of solar energy utilisation."

The United States has developed an excellent classifica-

tion of research paths and tasks with appropriate priorities to be achieved according to definite schedules, he says.

There is also vigorous industrial participation in research and development, and the organisation of University research is also task oriented with specified objectives

and fixed time schedules.

Mr Gani says it is to be hoped that the upsurge of interest in energy research shown by Federal and State governments in Australia in the past two years will eventually be regulated to a US-style planned attack on specified problem areas.

Is travel by trolley the economic answer?

Are electric trolley buses the answer to what is generally acknowledged as Australian cities' inadequate public transport systems?

The Dean of Engineering at Monash, Professor L. Endersbee, believes that they might be.

In a recent article in *Search* magazine, Professor Endersbee echoes a recommendation of the Institution of Engineers' 1977 Task Force on Energy that trolley buses might be an efficient form of "feeder" transport to existing rail networks, cheaper to install than extension of the rail services themselves.

Professor Endersbee says: "The trolley bus was once highly regarded as a public transport vehicle; it became unpopular because of its complicated overhead network and the greater flexibility and lower cost of diesel powered buses.

"With rising fuel costs and problems

of air pollution, the trolley bus is now being reconsidered and further developed for medium density routes overseas, particularly in Europe.

"Most of the new urban development in Australian cities since the Second World War has been in areas away from fixed rail transport; the rail systems were mostly completed in their present form by the time of the First World War.

"For the past few decades urban rail transport in Australia has been running at substantial losses and governments have not been encouraged to commit funds for further development.

"However, the prospects for improvement of urban transport through the use of electric trolley buses on feeder services may justify demonstration routes for them in one or more of our major cities."

Initiative engineers its own rewards



Tom Smith (left) and Jim Walton in a chemical engineering laboratory.

Global students 'buck' the system

Two young US students are currently doing the third year of their chemical engineering course at Monash.

For a brief period last year, however, it seemed that their self-initiated plans to "break the boredom of life and go to the other end of the world to study" could have come unstuck.

The students are Tom Smith and Jim Walton of Bucknell University.

Mid-winter last year Jim became fired with the idea of continuing work for his Bachelor of Engineering degree overseas after hearing another Bucknell chemical engineer who had been in England praise the idea of study abroad. Jim enthused Tom with the idea and they approached their department for tentative approval of their plans.

They had a choice of English-speaking countries and selected Australia.

Bucknell told the students that a graduate of the University was now a senior lecturer in chemical engineering at Monash. They made contact with Dr David Boger who helped them with their enrolment here.

All that remained was to line up passports and visas. And there came the snag.

On application to the Australian Consulate in New York the students were told that their plans would have to be abandoned. Australia generally only accepts overseas undergraduate

students from developing countries into courses which are not available at home.

Jim and Tom contacted Dr Boger, then in the US, who took their case to Australian officials.

Because a commitment had been made to the two and because they would not be displacing any Australian students, their plans were approved and visas granted.

Since arriving at Monash they have been impressed with the hospitality they have encountered and the academic experience the trip has afforded them.

Jim says: "We have been able to examine different ways of approaching problems and are more open minded as a result."

The students are impressed with the facilities Monash has to offer. During their stay they have been living in the Halls of Residence.

They return to Bucknell at the end of the year. Employment opportunities for chemical engineering graduates in the US are buoyant at the moment, they say. Both would like to gain work experience outside America at some time in the future.

● Bucknell University is in Louisburg, Pennsylvania.

"The closest place you have no doubt heard about is Harrisburg (site of the infamous nuclear plant)", says Jim.

He has heard that T-shirts are now on sale in that part of the world bearing the words "I glow in the dark" — for those with a bright sense of humor.



Garry wins Dodds Medal

A now well-established tradition was kept up in the department of Mechanical Engineering last month when Garry Flanigan was awarded the J. W. Dodds Memorial Medal for 1978.

The award, made annually to the most outstanding student in Mechanical Engineering, honors the memory of Mr Jim Dodds, whose family founded one of the very early engineering establishments in Australia, Riley Dodds (now Clyde-Riley Dodds).

The medal is awarded on the basis of three criteria: scholastic achievement, potential as a practitioner, and insights and understanding of mechanical engineering in Australia.

The citation for Garry's award noted the "rapid and profound insights into engineering and industrial practice that he had gained in a very short time."

Our photo shows Garry (who now works with Australian Synthetic Rubber at Altona) receiving the medal from Mr Gordon Page, acting general manager of Clyde-Riley Dodds.

An innovation this year was the unveiling by Professor W. A. G. Scott, Acting Vice-Chancellor, of a new honor board recording the names of the Medal winners.

Photo: Eddie O'Neill

Communications — any ANZAAS papers?

The Program Committee for ANZAAS Section 33, Communications, is seeking papers for next year's Jubilee ANZAAS Congress in Adelaide.

The Congress will be held from May 12-16.

The Section theme for the Congress is "Communications for a Sustainable Society."

The Section program will concentrate on communication in science and technology, including tele and satellite communications; and on communication in society, including the media, questions of access and privacy, and communications related to science and the media.

A special session will be devoted to communication as a discipline.

Papers are being sought on topics under the following broad headings:

- Communication as a Discipline?
- Communication in Science
- Science and the Media
- Communication and Information Services in Australia
- Mass Communications and the Social Environment
- Communication: Access and Privacy
- Communication for the Learning Society.

The Committee hopes that papers will concentrate on fundamental issues confronting science, technology and society to the year 2000 and will explore ways of solving these problems.

Further information can be obtained from Mr D. Murray, secretary, Section 33 Program Committee, Educational Resources Branch, Department of Further Education, G.P.O. Box 2352, Adelaide, 5001.

Kindergarten enrolments open

The Monash kindergarten, within the Education faculty, is now accepting enrolments for 1980.

The kindergarten — which has two trained teachers among its staff — is able to take 50 children. Of this number there are about 10 places for children with special needs.

The children attend the

kindergarten in two groups of 25 for 4 half-days a week.

Children eligible for the 1980 intake should have been born between July 1975 and June 30, 1976. Applications are invited from both Monash parents and the general public.

For application forms contact Mrs Sinclair on ext. 2829. Forms should be returned by July 11.

A brave show of kilt — on the campus outskirts

Two pipers pierced the air with "Scotland the Brave".

There was no mist hugging the moor and no heather on the hill.

It was, however, more or less over-cast and it is not beyond the bounds of possibility that heather grows among the countless plants in the Botany experimental area in the far north-west of the campus.

Such was the setting of the first meeting recently of the Monash Pipers' Society.

The Society has been formed by enthusiasts **Graeme McGregor**, Australian-born but of Scottish ancestry, and Indian-born **Keith Wilkins**.

The pair teamed up after a Maintenance man alerted Keith, who works in the Computer Centre, to the

fact that Graeme, of Botany, could be heard often of a lunchtime piping into the wind on the fringe of the campus.

What they now hope is that the Society will attract other bagpipers — and lovers of the pipes — to meet informally of a Tuesday lunchtime to play and discuss music. The meeting area remains, they say a little apologetically, the botany area in the far north-west.

There are no plans to launch a full pipe band at Monash. The cost and organisation required for one would be prohibitive, they say. Both pipers have commitments to other bands anyway — Keith plays with Frankston City and Graeme with Moorabbin City.

Those interested in the Society's activities should contact Keith on ext. 2765 — 2773 or Graeme on ext. 3825.



Graeme McGregor (left) and Keith Wilkins pipe in the lunchtime.

Minister to join seminar on conciliation and arbitration

The Federal Minister for Industrial Relations, Mr Tony Street, will join leading legal, business and trade union figures at a one day seminar at Monash to mark the 75th anniversary of the enactment of The Commonwealth Conciliation and Arbitration Act.

The seminar, titled **Australian Conciliation and Arbitration after 75 Years: the Federal Arbitration Process, Present Problems and Future Trends**, will be held on Saturday, July 14. It is being sponsored by the Law faculty.

The seminar organisers say that the 1904 Act is one of the most important ever passed by the Australian Parliament. In 75 years it has been amended no fewer than 74 times to keep up with the many changes in federal conciliation and arbitration.

The seminar will examine the existing mechanisms underpinning federal conciliation and arbitration and, in particular, will examine the Conciliation and Arbitration Commission, the Industrial Relations Bureau, the problems of enforcing federal awards and the legal personality difficulties confronting federal and state trade unions.

List of speakers

Monash's Chancellor, **Sir Richard Eggleston**, a former judge of the Commonwealth Industrial Court, will give an introductory address. Mr Street will be the first speaker.

Other speakers and their topics will be: **Mr Colin Wood**, deputy director of the Industrial Relations Bureau, "The Establishment and the Operations of the IRB"; **Ms Marilyn Pittard**, senior tutor in Law, "The Conciliation and Arbitration Act: The Prevention of

Strikes and the Recovery of Wages"; and **Dr J. Sharp**, former deputy president of the Arbitration Commission, "Moore v. Doyle: Some Post-Sweeney Report Problems."

Among other participants will be **Mr George Polites**, director of the Confederation of Australian Industry, and **Mr Peter Nolan**, ACTU secretary.

Top Muslim and Christian scholars explore common themes at conference

Preparations are underway for a conference on Islam and Christianity — the first of its kind in Australia — to be held at Mannix College from August 28 to 31.

Among the topics the conference will discuss are common themes in Islam and Christianity, the Bible and the Qur'an, and Islam in our region of the world.

Guest speaker will be **Father Georges Anawati**, director of the Dominican Institute of Oriental Studies in Cairo.

Two eminent Muslim scholars will be coming from Saudi Arabia: **Professor A. Farid Moustapha**, Dean of the College of Architecture and Planning at King Faisal University in Damman, and **Dr H. Bajouda**, of the faculty of Sharia, King Abdul Aziz University in Mecca.

Among other scholars attending will be Professor of Islamics at Temple University, Pennsylvania, **Professor I.**

Former Monash Law lecturer, **Mr Ron McCallum**, now of the Industrial Relations Bureau, will lead the discussion.

The seminar fee is \$45. For further information contact **Dot Grogan** on ext. 3377 or **Zoe Pask** on ext. 3329.

● Another seminar being organised by the Law faculty in July, this one in conjunction with the Victorian Automobile Chamber of Commerce, will look at trade practices and the car trader.

The seminar, to be held on Thursday, July 12 at 4.15 p.m. in Science

Theatre 3, will examine some of the difficulties and problems facing car traders with the aim of assisting them to operate within the framework of the Trade Practices Act.

This Act has placed heavy responsibility on both the trader and manufacturer. New sections were passed late last year making it even more essential for the trader and manufacturer to appreciate the need to stand by their products in the light of consumer law.

The seminar fee is \$50. For further information contact ext. 3377 or ext. 3329.

R. al-Faruqi, and **Professor N. al-Attas** from Malaysia.

From Australia, speakers will include **Professor A. H. Johns**, Dean of Asian Studies at ANU and **Dr M. A. El-Erjian**, head of the department of

Cultural Studies at Goulburn College of Advanced Education.

For further details about the conference and application forms contact the Master of Mannix College, **Dr. L. P. Fitzgerald**, on ext. 3982.

Degree conferral

Students who expect to complete their degree this year — either bachelor or higher — have been reminded that it is their responsibility to apply to have it conferred.

Final year bachelor degree students who expect to qualify at the 1979 annual examinations should complete and lodge their forms at the Student Records counter in the University Offices by **Monday, September 3**. Application forms are now available from Student Records.

Higher degree candidates will be sent application forms for conferral when they are advised by their faculty or by the PhD and Research Committee that they have qualified. The forms should be returned to Student Records as soon as possible.

Diploma students are not required to apply to have their diplomas awarded. All diplomas are awarded in absentia. Dip. Ed. students are reminded the diploma will not be awarded if they have not had their bachelor degree conferred.

Aboriginal material catalogued



Colin Bourke ... carrying out research in schools in the NT and three states.

Work is proceeding on establishment of an Aboriginal resource centre at Monash with funds raised by the Elizabeth Eggleston Memorial Appeal.

A total of \$34,800 was donated to the Appeal established two years ago to honor the late Dr Eggleston, director of the Centre for Research into Aboriginal Affairs from 1971 to 1976.

As a first step a librarian, Ms Julie Whiting, has been employed to catalogue the books bequeathed to the Centre by Dr Eggleston as well as the other written and taped materials donated and acquired in recent times.

The director of CRAA, Mr Colin Bourke says that the collection, which should be fully accessible to the public

by mid-year, is perhaps the most comprehensive in Australia on contemporary issues as they relate to Aborigines.

Mr Bourke says that the collection's particular strength is in its pamphlets and unpublished papers.

He says that the library resource is matched by CRAA's human resource in the specialised skills of its staff members.

But in its annual report to Professorial Board, the Board of the Centre for Research into Aboriginal Affairs warns that one of the difficulties the Centre faces is inadequate accommodation.

It is housed in five rooms of the fourth floor of the Education building.

The report says: "Despite the generosity of the Education faculty we are seriously overcrowded."

The report says that the objectives of the CRAA are to be reviewed this year "as they have changed little since 1964" when it was established.

- As they stand the objectives are:
- To maintain a body of information on matters relating to Aborigines and to provide information and resource materials in response to enquiries from a wide range of people both inside and outside the University.
 - To conduct Aboriginal Studies lectures on current Aboriginal issues for University students and the general public.

Research on effectiveness of Aboriginal language programs

How effective are programs being conducted throughout Australia to give Aboriginal schoolchildren literacy in their own languages?

The Director of the Centre for Research into Aboriginal Affairs, Mr Colin Bourke, is carrying out a case

study of schools in the Northern Territory, Queensland, South Australia and Western Australia to find out.

His research is being supported by the Education Research and Development Committee, set up to advise the Federal Minister for Education.

Mr Bourke plans to finish his report in the next few months, presenting to the Education Department a survey of what is happening in Aboriginal bilingual education and making recommendations, perhaps, on what should be happening.

Bilingual programs have been operating since 1973 in 27 schools (19 in the Northern Territory, five in SA, two in Queensland and one WA). Mr Bourke has visited several of these schools, talking with teachers, students and other members of the communities.

He says that several difficulties have emerged.

One is with teaching staff.

He says that in one State many of

the non-Aboriginal teachers, having been sent to the remote schools rather than having gone by choice, feel isolated and disgruntled. None has been trained to conduct bilingual programs.

Many of the Aboriginal teachers, who have responsibility for the programs, have only learned to read and write in their own languages themselves and lack full teacher training.

He says: "Many were employed in more minor positions, such as teacher aides, until a few years ago and have since had quite heavy responsibilities thrust upon them with very little preparation."

Mr Bourke says that one of the biggest difficulties is the lack of suitable reading material in Aboriginal languages for use in the classroom.

He says that, as the market is so small, economic considerations prohibit the production of even basic material let alone a variety of good quality books.

Letter

Dickens's descendants

Sir: It has been pointed out to me that neither Alfred nor Edward Dickens has living descendants in Australia (*Reporter*, June 5). This is quite correct: Edward Dickens had no children, and Alfred's daughters never married, and in any case ended their days in England. This means, of course, that those Australians who bear the surname Dickens are unlikely to be near relations of the novelist.

However, Miss M. Lazarus has discovered that two brothers-in-law of Dickens came out to Australia. These were William Thomson Hogarth and

James Ballantyne Hogarth. While the former is known to have returned to England, the latter is, I believe, unaccounted for. As he was born in 1825, and was last heard of in Ballarat in 1869, he must be supposed dead. Still, he may have descendants here.

Keen Dickensians, therefore, may like to check the antecedents of any Hogarths known to them. They might turn up a link with Dickens, or even (such are the chances of research) a link with Hogarth the painter.

Alan Dilnot

Graham takes up a new position as activities officer in Union

The Union has appointed Graham Dean as its new activities officer.

Graham replaces Neil Wentworth, activities officer for three and a half years, who resigned in May to take up a position as technical assistant in Zoology and to continue part-time study.

Graham is no stranger to Monash. His association with it goes back to 1962 when, he remembers, the campus was chiefly "a hole in the ground and a sea of mud". For the past 17 years he has worked as a "temporary" clerk of works with the Buildings and Grounds Branch.

Summer School

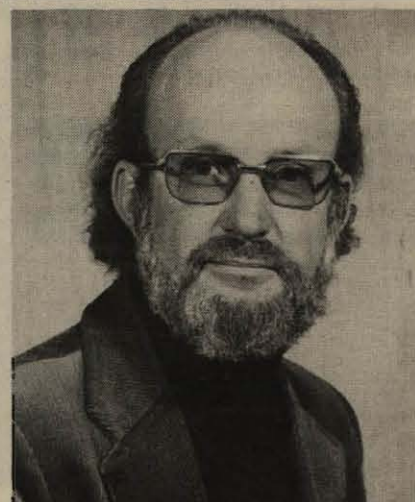
He will carry on the past duties of the activities officer: being responsible for the administration and co-ordination of Union clubs and societies, and organising the extensive arts and crafts tuition program offered

to members of the Monash community and the general public in its annual Summer School during the long vacation and classes during term.

As well, a major task will be handling administration of the new Monash Arts and Crafts Centre which is nearing completion.

Graham has been studying part-time during the last four years for an Arts degree having gained entry as an Early Leaver.

Graham can be contacted through the clubs and societies office on the first floor of the Union (ext. 3144 or 3180).



● Graham Dean

Heavy demand: new classes

Heavy demand on second semester arts and crafts classes being run by the Union has led to more being added.

At the time of going to press, efforts were being made to organise new classes in pottery (evenings), stained glass windowmaking, jewellery and silverwork, book restoration, repair and binding, and leatherwork.

Inquiries about these classes should be directed to the clubs and societies office, ext. 3144 or 3180.

The classes will move into the new Arts and Crafts Centre when it is ready for occupation.

The new activities officer, Mr Graham Dean, says: "This building, which will be officially opened during the running of second semester courses after tutors and students have had a chance to settle in, will provide expanded and improved facilities for classes which have struggled along under difficult conditions for many years."

SCHOLARSHIPS

The Academic Registrar's department has been advised of the following scholarships. The Reporter presents a precis of the details. More information can be obtained from the Graduate Scholarships Office, ground floor, University Offices, extension 3055.

United States Institute of Health International Postdoctoral Research Fellowships.

Offered to Australians for training for biomedical research in the USA. Value: \$US13,000-\$16,000 according to experience. Applications close October 31.

Society begins rehearsals for its opera first

● An intriguing rehearsal shot: Peter Wright as the Pilgrim and unidentified supporter

Rehearsals have begun for what the Monash University Choral Society terms its "most ambitious project ever": the first Melbourne performance of Ralph Vaughan Williams' opera "The Pilgrim's Progress".

The opera will be performed on August 1, 3 and 4 at the Toorak State College Theatre in Glenferrie Road, Malvern. Performances start at 8 p.m.

"The Pilgrim's Progress" is a Morality in four acts based on the book by John Bunyan. It follows the path of a pilgrim on his way to the Celestial City.

The pilgrim will be played by Peter Wright, a third year student at the Victorian College of the Arts, with the other solo parts being taken by members of the choir.

Director of the production is Stewart Skelt. The musical director is

Hugh McKelvey, present conductor of the Waverley Chamber Orchestra and of the Monash Choral Society.

Tickets cost \$6 with a \$3.50 concession. A discount of 50 cents per person is available for group bookings of more than 15 people but the seats must be booked by mail in advance.

Mail bookings should be directed to the Secretary, 64 Leura Grove, East Hawthorn, 3123. Cheques should be made payable to the Monash University Choral Society.

Phone bookings may be made, after hours, on 82 2920.



Important dates for students in July

The Academic Registrar advises the following important dates for students for July, 1979:

- M 2: Vacation and G.P. week begins for Medicine VI. Mid-year break begins for B. Juris and LL.B. Applications open for entry to Bachelor of Social Work course 1980. mid-year examinations commence.
- Sat 7: Mid-year break ends for B. Juris and LL.B.
- M 9: Second half-year begins for B.Ec., M.Ec. and M.Admin.
- W 11: Publication of mid-year examination results — Education.
- Th 12: Publication of mid-year examination results — Law (including Arts/Laws, Eco/Law, Sci/Law).
- F 13: Second teaching round ends, Dip.Ed.
- Sat 14: Vacation and G.P. week ends for Medicine VI.
- M 16: Second half-year begins for B.Ed., Dip.Ed., Psych. and M.Ed.Stud. Second semester begins for LL.M. by coursework. Third term begins for Medicine V and VI.
- F 27: Last date for second half-year course/subject/unit changes.

After July 27 no student may take up a new subject or unit taught in the second half of the year, except with the permission of the Dean of the faculty, and on payment of a late change fee calculated at the rate of \$5 for up to one week late; \$10 for between one to two weeks late; \$15 for more than two weeks late.

Blood Bank

Donors are being sought for the Red Cross Mobile Blood Bank which will be at Monash until the end of next week.

The Blood Bank has been established in the ground floor meeting rooms of the Menzies Building. It will be open from 9.15 a.m. to 3.45 p.m. each day.

Intending donors can make appointments now at the Union Desk.

JULY DIARY

- 4-13: RED CROSS MOBILE BLOOD BANK will be visiting Monash University. 9.15 a.m. - 3.45 p.m. Arts Assembly Rooms SGO1-4. Appointments can be made at the Union Desk.
- 4-6: BALET — "Filthy Children", a modern ballet for children by children, suitable for 8-15 year-olds. Presented by the Australian Dance Theatre and The Victorian Arts Council. 10.30 a.m. and 1.30 p.m. Alex. Theatre. Admission: \$1.
- 4: ENVIRONMENTAL FORUM — "The Secret of Happiness: Does physical poverty lead to spiritual wealth?", discussion led by Jo Benjamin, Poverty Education Research Centre, Brotherhood of St Laurence. other forums in series: 11: "Advertising and the Quality of Life", led by Bob Wurster, sociologist. 18: "Is first world technology appropriate in the third world? — A case study from Tanzania", led by Dr Paddy Moriarty, Civil Engineering, CIF. Pres. by Monash Department of Environmental Science. 5 p.m. Environmental Science Seminar Room. Admission free. Inquiries: ext. 3841.
- 6: LECTURE — "Choosing the site of a school, to minimize the distance to three villages", by Dr E. Strzelecki. Of interest to Year 11 & 12 students. Pres. by Monash Department of Mathematics. 7 p.m. Lecture Theatre R1. Admission free. Inquiries: ext. 2550.
- 7: SATURDAY CLUB (Red Series) — "The Piper Man", musical based on The Pied Piper. 2.30 p.m. Alex. Theatre. Admission: adults \$3.75, children \$2.75. Performance repeated July 14.
- 9: MIGRANT STUDIES SEMINAR — "Language Shift in Rural German Communities", by Ms Sandra Kipp; "The Role of Mixed Marriages in Language Shift in the Dutch Community", by Ms Anne Pauwels. 7.30 p.m. Lecture Theatre R3. Admission free. Inquiries: ext. 2925.
- 11-14: PLAY — "1787 A Revolution", presented by Fabrique. An interpretation of the French Revolution. 8 p.m. Alex Theatre. Admission: adults \$4, students \$2.50. Group concessions available. Performances also July 17-21.
- 12: SEMINAR — "Consumer Law and the Car Trader", co-sponsored by Monash Faculty of Law and Victorian Automobile Chamber of Commerce 4 p.m. - 9 p.m. Lecture Theatre S3. Fee: \$50. Further information, exts. 3377, 3329.
- 14: SEMINAR — "Australian Conciliation and Arbitration after 75 years", pres. by Monash faculty of Law. Speakers include Mr A. Street, Minister for Industrial Relations; Mr Peter Nolan, Secretary, ACTU; Mr G. Polites, Director, National Employers' Industrial Council. 9.30 a.m. - 4 p.m. Fee: \$45. Further information, exts. 3377, 3329.
- CONCERT — Australian Chamber Orchestra presented by Musica Viva Australia. Works by Haydn, Respighi, Dreyfus, Bartok. 8.15 p.m. RBH. Tickets available from BASS agencies.
- 16: LUNCHTIME CONCERT — Paul Plunket Brass Quintet. Works by Scheidt, Albinoni, Howarth, Clarke, Rimmer, Iveson. 1.15 p.m. RBH. Admission free.
- 17: CONCERT — Commonwealth final of ABC Instrumental and Vocal Competition. 7.30 p.m. RBH. Admission free. Entree cards available from ABC, 10 Queen Street, Melbourne or Robert Blackwood Hall.
- 18: LECTURE — "The Future of the Legal Profession and the Role of Legal Education", by Prof. P.G. Nash, Monash Dean of Law. 1 p.m. Lecture Theatre R4. Admission free.
- 20: ORGAN RECITAL by Terry Norman, organist, Aquinas College, Ballarat. 1.15 p.m. Religious Centre. Admission free.
- LECTURE — "Prime Numbers", by Dr R.T. Worley. Of interest to year 11 & 12 students. Pres. by Monash Department of Mathematics. 7 p.m. Lecture Theatre R1. Admission free. Inquiries: ext. 2550.
- CONCERT — Hampshire County Youth Orchestra with The Tokyo University of Agriculture Choir, presented by The Melbourne Youth Music Festival. 10.30 a.m. and 1.30 p.m. RBH. Admission: school children 80¢, adults \$1.20.
- LECTURE — ANSUA (A New Start for the Underachiever), by Dr Ray Wunderlich, US specialist in child development and learning disorders. 8 p.m. RBH. Admission: \$3. Tickets also available from ANSUA, 89 1895.
- 21: MONASH UNIVERSITY PARENTS GROUP — Dinner Dance. 6.30 p.m. Main Dining Room, Union. Bookings, inquiries: Mrs M. Tankard, 569 7565.
- 22: CONCERT — Musica Da Camera, ABC chamber concert. 7.30 p.m. RBH. Admission free.
- 23: LUNCHTIME CONCERT — Donald Scotts — violin, Vernon Hill — flute, Margaret Schofield — piano. Works by Martinu, Schubert, Reinecke. 1.15 p.m. RBH. Admission free.
- LECTURE — "Recent Advances in the Treatment of Sexual Dysfunction", by Prof. Derek Jehu, University of Manitoba. Pres. by Monash Department of Social Work. 7.30 p.m. Lecture Theatre R1. Admission free. Inquiries: ext. 2989.
- MIGRANT STUDIES SEMINAR — "Minor Community Languages: The Case of Slovenian", by Ms A.L. Ceferin. 7.30 p.m. Lecture Theatre R3. Admission free. Inquiries: ext. 2925.
- 26: CONCERT — Strathcona BGGS present an evening of choral and instrumental music. 7.30 p.m. RBH.
- 28-29: SEMINAR — The Trouble with Medicine: A Health Be In It seminar. Topics include: Cures That Make You Ill; Human Disease is Human Made; Does Psychic Healing Have Side Effects?; Politics vs. Health. 10 a.m. - 5 p.m. RBH. Further information, 529 4551.
- 28: SATURDAY CLUB (Red Series) — "The Adventures of a Bear Called Paddington", presented by the Actors Theatre. 2.30 p.m. Alex. Theatre. Admission: adults \$3.75, children \$2.75.
- 29: CONCERT — Musica Da Camera, ABC chamber concert. 7.30 p.m. RBH. Admission free.
- 30: LUNCHTIME CONCERT — Jochen Schubert — guitar. Works by Giuliani, Sprongl, Castelnuovo-Tedesco. 1.15 p.m. RBH. Admission free.
- 31: CONCERT — ABC Gold Series No. 4. The Melbourne Symphony Orchestra conducted by Urs Schneider with Erich Gruenberg — violin. Works by Shostakovich, Scriabin. 8 p.m. RBH. Admission: A. Res. \$7.70, B. Res. \$5.90, C. Res. \$3.20.

MONASH REPORTER

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Copy deadline is Thursday, July 19.

Contributions (letters, articles, photos) and suggestions should be addressed to the editor (ext. 2003) c/- the information office, ground floor, University Offices.