

Prentice delivers moons on cue

Voyager supports Uranus theories

A senior lecturer in the Department of Mathematics has risen to world prominence after successfully predicting the findings of the Voyager probe in its recent encounter with the planet Uranus.

Dr Andrew Prentice accurately predicted the locations of a new moon and a new satellite belt, the chemical compositions and densities of the moons, and that the magnetic field of the planet would be found to be at an angle to its rotational axis.

He also provided an explanation of the astonishing 8 km high cliffs on the surface of the moon Miranda (centre pages).

He did so on the basis of his controversial model of the formation of the solar system.

His initial success in defining the locations of the previously unknown moon and satellite belt received widespread publicity in the United States and Britain, and he became one of only two scientists interviewed on national public radio in the US over Voyager's Uranus flyby.

Since the confirmation of Prentice's pronouncements on the densities and chemical compositions of the moons of Uranus, the editor of the prestigious scientific journal, *Nature*, has asked him to contribute a review article on his theory.

Proto-sun

"At the moment, my model is the only one that can satisfactorily explain the formation and composition of the entire solar system — and that's not too bad," he said.

The Prentice model is based on the 190-year-old ideas of the great French astronomer and mathematician, **Pierre de Laplace**.

In the early 1970s, long after Laplace's ideas had fallen into disfavor, Dr Prentice became convinced that they constituted the best explanation for one of the simplest and most curious facts of the solar system — all the planets travel in the same direction on nearby circular orbits almost all of which are in the same plane.

Laplace pictured the solar system as emerging from the contraction of a hotter, whirling proto-sun which once covered the whole of the space now occupied by the planets.

This proto-sun contracted as it cool-

ed, whirling faster still and sloughing off doughnut-shaped rings of gas from its equator at precise intervals.

The rings were abandoned where the centrifugal force of whirling, which pushes material away from the proto-sun's centre — that same force which throws you around in a car as you turn a corner at speed — exactly matched the gravitational force pulling material towards the centre.

In the Prentice model, the formation of the outer planets and their attendant moons is seen as a re-run on a minor scale.

Turbulence

The theories of Laplace were discarded generally by astronomers, because there seemed no good mechanism for the shedding of the rings, and their consolidation into planets.

But Prentice thinks he has found the answer in "supersonic turbulence" — a concept first suggested by the Dutch physicist, Dr Dirk ter Haar, with whom Prentice worked at Oxford University.

Supersonic turbulence is a powerful form of convection, the circulation that occurs when warm fluid rises and cooler fluid rushes in to take its place.

In this case, hot eddies of gas are seen as shooting out from the centre of the whirling proto-sun or proto-planet towards its edge at greater than the speed of sound.

Their place is taken by cooler gas falling towards the centre.

Few of Prentice and ter Haar's colleagues, however, actually believe in supersonic turbulence, which means that until now the Prentice model has not been widely accepted.

Initially it was published only after being rejected some 10 times.

That is why the latest test of the models' predictive power was so important for Dr Prentice.

And his success has gone a long way towards vindicating the concept.

"For the one value of supersonic turbulence, we have been able to explain the composition of the entire solar system," he says.

Soon after reaching the US in early



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● The ringed planet Uranus looming behind the craggy surface of Miranda.

January, Dr Prentice delivered a paper containing his Uranus predictions to the American Astronomical Society which was meeting in Houston.

The Voyager encounter was to be in late January, but already preliminary information was beginning to filter back.

Dr Prentice took the floor feeling more than a little nervous.

He had just heard a radio report that a new Uranian moon had been discovered, but he had no details of where it was or whether it squared up with his model.

After he had delivered his paper, an interested reporter from the *Boston Globe* approached him and together they rushed to the nearest newsstand for details of the newly discovered moon.

Dr Prentice had predicted new satellites or satellite belts at 68,000 km and 89,000 km from the centre of Uranus.

The new moon measured in at 86,000

km. The reporter was mightily impressed.

A few days later, Voyager found a belt of satellites spread around an average distance of 68,000 km from Uranus.

So Dr Prentice had predicted the positions of these two to within 3 per cent — well within his margins for error.

Not all his colleagues fared so well. A team from the Massachusetts Institute of Technology predicted a new satellite would be found at precisely $76,222 \pm 8$ km from the planet, exactly halfway between the newly discovered bodies.

"It's a risky business, this predicting. "They couldn't have chosen a worse spot," he says.

But it was not all smooth sailing for Dr Prentice either.

Mathematical models are highly dependent on the quality of the informa-

● Continued page 6



● Dr Andrew Prentice discusses his work with Sally White, editor of *Future Age*.

"Know then thyself, presume not God to scan
 The proper study of mankind is man."
 So said Pope, so I'll tell how
 Where'er I went, from birth till now
 I came across a strange tall bloke
 With ginger hair and wreathed in smoke,
 Who robots loves, and music, too —
 I'm sure you'll find he's known to you.

Who is the man 'shrined in this rhyme? For the answer turn to our page nine.

From the information office in '86

MONASH REPORTER is one of a number of publications and services provided by the University's information office.

Although a part of the Vice-Chancellor's section, the office exists to service the needs of the campus as a whole.

First, **MONASH REPORTER** . . . This is primarily an internal publication, published nine times a year, and distributed throughout the campus and affiliated off-campus institutions.

It is edited by **Lisa Kelly** who can be contacted on ext. 2003, and who would welcome contributions, letters and ideas. Copy deadlines for suc-

ceeding issues are published on the back page of each edition.

Another major publication is **MONASH REVIEW**, a periodical devoted to publicising — mainly off-campus — the University's achievements in teaching, research and community involvement.

It is edited by **Tim Thwaites**, who can be contacted on ext. 3087.

SOUND is another information office publication. Sub-titled 'The official broadsheet of Monash University', this modest journal appears on average 35 times a year. There are no fixed deadlines, and items for publication will be accepted at any time by the information officer,

Keith Bennetts, or the secretary, **Ruth Keeler**. They can be contacted on ext. 2087.

THE MONTH AT MONASH, the advertisement listing University events to which members of the public are invited, is another information office responsibility. Compiled by **Georgia Tsioukis**, the ad appears around the turn of the month in *The Age* and a number of suburban weeklies. In normal circumstances, copy deadlines are 5 p.m. on the third Thursday of the preceding month. The extension to dial is 2002.

Other information office services include:

- **Press Cuttings**, a regular compila-

tion of news clippings dealing with Monash and the education scene generally. This is distributed two or three times weekly to all departments.

- **This is Monash**, the annual visitors' guide to the campus. The 1986 edition is now available.
- **Press releases** and publicity matters generally. The office is pleased to assist in the preparation of releases and to advise on publications.

The office also is involved in maintaining liaison with the Monash Graduates Association and with school tours of the campus. **Georgia Tsioukis** is the person to contact about these.



• Selecting photographs for the planned Silver Jubilee exhibition sponsored by the departments of Visual Arts and History are, from left: John Rickard, Jenepher Duncan, Bill Kent, Elaine Merkus and David Cuthbert.

Picture parade of first 25 years

The Visual Arts Gallery will hold two special exhibitions this year to mark the University's 25th Anniversary.

The first, *Selections from the University Art Collection*, opened this week and will continue until Friday, April 11.

The second will be a largely photographic exhibition of the University's cultural, political and social history.

It is being mounted jointly by the gallery, the departments of Visual Arts and History, and is being drawn from at least 10 different photographic collections around the University.

A special publication, funded by the Silver Jubilee Committee, will be produced in conjunction with the exhibition, and edited by Bill Kent and David Cuthbert of the History department.

Contributors will include John Rickard (History), Conrad Hamann, Margaret Plant and Jenepher Duncan (Visual Arts), Martin Canny (Botany) and David Bradley (English).

The exhibition will be held during the 25th Anniversary celebrations, and will be officially opened on Tuesday, May 20.

(Contributions of photographs from private collections — memorable events, faces, student activities, and others — will be appreciated. They should be sent, together with a date and brief explanation of the contents, to the Deputy Registrar, Mr Jim Leicester, as soon as possible.)

The 'Alex' goes on tap



• The Alexander Theatre is now licensed and its new bar will be officially opened this month for the Melbourne Music Theatre's season of *Pirates of Penzance*. Pictured celebrating the completion of this long-awaited addition to the Alex's facilities are, from left, Graham McGuffie (technician), Wendy Todd (bookings secretary), Phil A'Vard (theatre manager) and Michael Lee of Buildings Branch, who designed the bar. Photos — Tony Miller.

Annual service

The Roman Catholic Archbishop of Melbourne, the Right Reverend Dr Frank Little, will be guest speaker at the annual University Service, to be held in the Large Chapel of the Religious Centre on Thursday at 1.10 pm.

Members of the University Chaplaincy, Reverend Laurie Foote (Catholic), Reverend Philip Huggins (Anglican) and Pastor Peter Pfitzner (Lutheran) invite everyone to attend the service which will pay special tribute to the University's 25th Anniversary year.

The organ will be played by Associate Professor Bruce Steele (department of English), and Dr Alan Gregory will conduct the Education Faculty choir.

Disarming speaker

The Australian Ambassador for Disarmament, Mr Richard Butler, will hold a free public meeting in R1 (Rotunda) at 7.30 pm on Wednesday, March 12.

He will speak on his work at the conference on disarmament in Geneva (where he is chairman), on the work of the conference in general, and about the Australian Government's policies on disarmament and arms control.

US responds to 'parochial' jibe

Sydney will host an international conference on health care, law and ethics because Monash visitor, Professor Margaret Somerville, told the Americans they were too parochial.

Speaking at a conference in Boston last year, she complained that the American Society of Law and Medicine was not looking far enough afield.

The society promptly set up an international liaison committee and appointed her to the chair.

When asked where she would like to hold the first big international conference on health, law and ethics, she said Sydney, "because it was the farthest place I could think of".

After a few seconds' hesitation, the Americans said: "Why not?", so the conference will be held at the Sheraton-Wentworth Hotel in Sydney from August 17-21.

Professor Somerville, who is visiting the Centre for Human Bioethics for four months while she writes a book titled *Reproduction Technology: A continuing challenge to consistency in values, policy, attitudes and legislation*, holds Chairs in Law and in Medicine at McGill University in Montreal.

She says the centre at Monash has given Australia an international identity in the field of human bioethics.

"Countries have a tremendous interest in each other's approaches to the controversial and highly public legal and ethical issues raised in the medical context.

"There is possibly more universal interest here than in any other area, certainly in any other area of law."

McGill University was passing a resolution to set up a similar centre which, it was hoped, would interact with Monash, as well as with other centres in North America and Europe, she said.

Australian-born Professor Somerville is in the forefront of moves to reconsider the role of modern medicine.

She teaches law, medicine and ethics to students and practising physicians, and says changes are working their way through the medical system from the bottom up.

"The medical model is often the

model for many other relationships.

"It crystallises some of our deepest and most important values — or conflicts — and people can personally identify with situations or problems.

"With the new technology, medicine has become a field of uncertainty.

"Paradoxically, a lot of fears of earlier times, that hospitals were harmful places where you went to die, were raised again by the 'miracle' technology.

"Instead of being places of neglect, hospitals became places of over-attention, with the machine being the subject and the patient merely the object.

"It depended on whether you saw medicine as being to benefit people, or people being the object on which medicine was practised."

Informed consent

The next phase had to be the integration of caring and technology.

Throughout North America a legal doctrine of "informed consent" had been adopted.

This required doctors to share with patients their doubts and uncertainties about the outcome of treatment they could offer, and to accept patients' decisions about going ahead with treatment or not.

"This is an outgrowth of emphasis on the rights of the individual; the application of principles and concepts of human rights to the medical milieu," says Professor Somerville.

"As a free and autonomous person the patient has a right to choose the action to be taken.

"This new phenomenon requires health care officials to change their own priorities; to give up their paternalistic authority and adopt a more egalitarian approach.

"Difficult situations can arise. For instance, this approach requires respect for a Jehovah's Witness' refusal to have a blood transfusion, even if that leads to the patient's death.

"This can raise tremendous conflicts and problems for members of the health care professions, who need help to deal with the changes."

Professor Somerville is widely known throughout North America and parts of Europe for her participation in public debate on these matters, especially on television, radio and in the press about issues like AIDS, patients' rights, over-treatment and over-use of medical technology, organ transplantation, euthanasia and new methods of reproduction.

She is also part of the legislative machinery which is trying to determine new guidelines in all these areas, and during her visit to Monash she is giving advice to Victorian Government bodies, including the Department of Health and the Law Reform Commission.

She believes it is not possible to legislate right decisions regarding many of the issues of medical ethics, but that the law must insist on "right decision-making process".

"Often we can't legislate right decisions because circumstances can vary, science can change so quickly," she says.

"You can't legislate that treatment should or should not be withdrawn. You have to look at all the circumstances and make a decision for each case, using proper and adequate procedures.

Middle position

"With defective new-born babies, it is totally wrong to say their lives should depend only on whether the parents want them treated or not.

"In my view, that is an insufficient decision-making process; it could mean you had two babies with identical problems, but one might live and one might be allowed to die.

"I would want the opinion of a properly-constructed ethics committee in each case."

Professor Somerville says she takes a "fairly middle position" on life-or-death issues.

"I don't always want to treat, or not



• Australian-born Margaret Somerville is a professor in the Faculties of Law and Medicine at McGill University, Montreal. She is consultant to the Law Reform Commission of Canada, director and secretary of the American Society of Law and Medicine, a consultant to the Medical Research Council (Canada) Standing Committee on Ethics in Experimentation, consultant to the Canadian Association for the Mentally Retarded, legal adviser to the Committee on Concern for the Dying and much, much more. Her prizes and awards include the Pax Orbis ex Jure Gold Medal awarded by the World Peace Through Law Association, Berlin, 1985, and the University of Sydney Medal, 1973. Professor Somerville's activities include speaking at international conferences and meetings, and writing in the fields of law, medicine and ethics.

treat — though I don't believe in killing.

"There is under-treatment, over-treatment and proper treatment — and what we need is proper treatment."

She believes the Monash IVF team is an exceptional group with a highly-marketable product.

"Others have access to the same techniques and they are not achieving the same results.

"There are more than 60 IVF units in France and some have never achieved a pregnancy, which is just horrific for the patients.

"When you consider the success rate here, and we can anticipate it will continue to improve, the Monash team has something of value to sell.

• Continued page 11

Monash to moot for Australia again

When the successful Monash mooting team broke up last year, it seemed that many years of steady progress towards the ultimate goal, the Jessup Cup, had gone for good.

But the ghosts lingered on, and the 1986 team, under-peopled and mostly inexperienced, repeated last year's victory at the Australian finals of the will again represent Australia at the international finals in the United States, where it was runner-up last year.

"Our win was a shock to the Law Faculty," says team member, Edwina Bell.

"Every other university had a full team: four mooters and a solicitor.

"Despite that, we beat Sydney

University in the finals and Stuart (Diamond), who had to argue both sides for us, was adjudged best oralist."

The third team member, Jennifer Jessup International Law Moot Competition in Canberra.

Monash is the first university to win the competition for a second time, and it Lalor, is the only one of last year's mooters to remain in the competition.

Edwina, a fourth year law student, gives full credit for the 1986 victory to coach Harry Reicher, a senior lecturer in

the Law Faculty, and to Jonathan Slonim, one of last year's team. Both have been prime movers in getting Monash into the Jessup competition.

"Jon played an important part in keeping up our efforts; he contributed to general coaching and listened to our presentation.

"He stepped in whenever Harry couldn't," she says.

Monash also became involved in a goodwill exercise — a Trans-Tasman competition.

"New Zealand asked Harry if the winner of the Australian competition would moot New Zealand to give them some practice.

"We started in Canberra, and will fly to New Zealand on our way to Washington for a return bout."

The international finals will be held from April 5 to April 12. Donations towards the team's expenses would be appreciated, and further information can be obtained from the Dean of Law, Professor Bob Baxt, on ext. 3300.



• Left: Stuart Diamond and Edwina Bell. Above: The 1985 mooting team, clockwise from top left: Alan Swanwick, Jonathan Slonim, Kate Schneeberger, John Jarrett, coach Harry Reicher, Jennifer Lalor (also on this year's team), Andrew Hamlyn-Harris and Carmel Bianchi.

City swamp should become waterbird refuge

Seaford Swamp should be developed as a waterbird sanctuary and major environmental resource, says a new report from the Graduate School of Environmental Science.

The report, sponsored by the Dandenong Valley Authority and the City of Frankston, says the swamp is a drought refuge for many wetland-dependent birds and is one of the few significant wetlands remaining in the metropolitan area.

Most species of wetland birds occurring in southern Victoria have been recorded there, and several species abundant at Seaford are not found at other nearby wetlands.

"The individual species for which the swamp is most notable is Latham's Snipe, a relatively rare migratory wader which is protected by a bilateral treaty between Japan and Australia; and is typically present in quite large numbers each year," the report says.

The swamp's present 120 hectares in Mordialloc are part of the once-extensive Carrum-Carrum Swamp, which stretched from Mordialloc to Frankston until major drainage works began in the 1870s.

Together with agricultural and urban development, this drainage program caused the elimination of most wetland habitat except in seasonally inundated areas as at Seaford.

The authors of *Ecology and Management of Seaford Swamp* are Master of Environmental Science candidates Alister Donnelly, Carol Kunert and Paul Schleiger; their individual work has been supervised respectively by Professor Mike Cullen and Dr Sam Lake of Zoology, Dr Bob Congdon of Botany

and Mrs Andrea Lindsay of the Graduate School of Environmental Science. The overall project was supervised by Trevor Blake of the graduate school.

Their 15-month study was aimed at developing a strategy to enhance ecological conditions while protecting flood storage capacities and providing compatible facilities for passive recreation and environmental research.

They have outlined a program of improvements to occur in three five-year stages. It would depend on the maintenance of higher water levels, therefore requiring the installation of pumps to deal with flood threats.

The first stage would concentrate on cleaning up, and measures such as perimeter fencing, vehicle barriers, weed control and the planting of buffer and bushland areas.

A major feature of the second stage would be the creation of a public access area on the eastern margins, with off-street parking, picnic area and elevated bird hide. Further habitat rehabilitation and creation of new wetland lagoons would also occur.

The third stage would involve the acquisition of private land on the northern and north-eastern margins to extend shallow wetland and bushland habitat areas.

It is expected that the expansion of facilities for environmental studies and



• Dr Tim Ealey, right, head of the Graduate School of Environmental Science, presents the report on Seaford Swamp to Councillor Albert Knowles, Mayor of Frankston, in the City of Frankston council chambers.

passive recreation would create a resource of major regional significance.

On February 17, the City of Frankston adopted the report and resolved to implement the proposed strategy, at least to a level equivalent to stage two, with the possible implementation of stage three in the longer term.

The Dandenong Valley Authority is shortly to consider the report's recommendations.

If it concurs, a capital expenditure of up to \$600,000 and a recurrent annual expenditure of \$150,000 will be involved in a major program for environmental restoration and multiple-use management.



LETTERS

Clayton's Jubilee?

I must draw your attention to the bottom left corner of Monash University's latest stationery edition showing to recipients of letters by this University's staff a logo type design '25th Jubilee'.

After consultation of specialist literature on jubilees, e.g. Maimonides, *Rules for sabbaticals and jubilees*, it was easy to establish that a jubilee is a period of 50 years (compare: 1 Olympiad = 4 years, 1 century = 100 years, etc.).

Needless to emphasise that Maimonides is an expert on jubilees as only last year he celebrated his 17th.

It is therefore an uplifting experience to teach at a university which is eight jubilees older than this great medieval scholar.

After receiving advice from VAX 8, it is thus beyond doubt that our university was founded in the year 736 (VAX 8 did a 1986 — 25 x 50 for me in almost zero CPU-time, but queuing led to an actual computation time of 19 minutes 27.03 seconds).

I propose, in order to keep in the spirit of the foundation year, that henceforward lectures, seminars, tutorials, practice classes, laboratory sessions, etc. be exclusively conducted in Latin.

Further the motto *Ancora imparo* ought to be changed for the obvious anachronism.

MONASH REPORTER

Students should be encouraged to refer to our university exclusively by the name 'Alma Mater Monashina'.

For publicity reasons, higher officers of the University should be encouraged to express their regrets in the media that, despite sincere efforts, it has been impossible to attract the Venerable Bede to a sub-professorial position at this place of learning as Bede, out of sheer spite, passed away in 735, thus only one year before foundation.

I may be wrong, after all: how could Maimonides (1135-1204) know what the meaning of 'jubilee' was back in 736?

"A Confused Reader"

(Hans Lausch

Department of Mathematics)

Open-mouthed again

While it is good to know that a mathematical wordsmith has won the Monash University Prize for Poetry, 1985 (*Monash Reporter*, 9-85), I am puzzled by Professor Bradley's interpretation of Miss Sender's winning entry and quite lost as to why it occurred to the judges that she is a mathematician.

I would like it clearly understood that none of this department's courses involves the study of moments of emotional intimacy.

Contrary to what the judges saw, Miss Sender's poem is clearly about her fellow students.

But her relational perception is truly remarkable.

Perhaps it is her symmetric empathy which allows her to stand briefly in the lecturer's place.

How else could she see her fellow students as we see them? "Mute, open-mouthed like trouts with eyes holding a mind's aimless inertia".

And yet, in her closing lines, she becomes again the eternal student,

recording the momentary grasp of mathematical beauty before reflection reveals the vanity of hoping to understand it.

We mathematicians are simple folk but we do not lack compassion. That title, "You or me", has nothing to do with French eroticism. It simply means that Miss Sender is not elitist. She is not claiming to be different from other students.

Why must literary people make simple things so complicated and, dare I say it, dirty?

Sex isn't everything, you know, there is also Mathematics.

Peter Finch

Professor of Mathematics

• The poem appears below.

YOU OR ME

Staring at no distance,
mute, open-mouthed like a trout
with a dandelion skipping across the meniscus
on the other side of air,
behind those eyes that hold a mind's aimless inertia,
you chase, in pretraced tracks,
a silent pity's run.
My empathy is from our symmetry;
while unwinding, unbound, along
we grasp our reflection in a moment
of beauty before vanity.

Joanna Sender

Chronic pain is a challenge

The management of chronic pain represented one of the great medical challenges for the general practitioner, said Dr John Murtagh of the department of Community Medicine.

It was a yardstick of the excellence of the doctor-patient relationship.

"When we challenge the authenticity of pain we lose credibility and often lose the patient," he told members of the Australian Pain Society.

"We have to be careful not to surreptitiously create the 'good riddance' syndrome."

In general practice, the common sites and causes of chronic pain were: low back pain, neck pain, headache, the pain of terminal cancer, osteoarthritis of the hip and knee, rheumatic arthritis and post-herpetic neuralgia (post-shingles pain).

Patients with such pain should be supported with proper care, responsibility and skill, said Dr Murtagh.

Doctors should promote a holistic approach by advising patients about nutrition, stress management and drug control, Dr Murtagh said.

"We should use physical therapy in preference to drugs and inactivity.

"This includes mobilisation and manipulation techniques, injection therapy, electrical therapy and muscle energy techniques; the best of these is an active exercise program."

Dr Murtagh was speaking last month at the Eighth Annual Scientific Meeting of the society, held at the Royal Southern Memorial Hospital.

Other Monash staff members involved in the meeting included Dr Jean Olley of Pharmacology and Dr Robert Helme from Prince Henry's Hospital.

MARCH 5, 1986

'Ageist' governor acclaims Third Age

The existence of Universities of the Third Age was a salutary reminder of the true character of university education, said Victoria's new Governor, Dr Davis McCaughey.

They showed learning for its own sake was a self-justifying activity like art and music, he told participants at the first Australian conference of the U3A movement.

The conference, held at Monash on Wednesday, February 19, was the first official engagement for Dr McCaughey after he had been sworn in as Governor the previous day.

This is an edited version of his speech.

★ ★ ★
There is, I confess, something appropriate that the first responsibility I fulfil on becoming Governor should be to speak at a conference of the University of the Third Age.

I am in the right age bracket and I have had something to do with universities during most of my adult life.

I feel, however, that my attitude may not be entirely correct.

After my appointment was announced, and I had been interviewed by the press, a friend wrote to me, who had given some thought to the process of ageing. She said:

"But did you really say 'I never thought at my age anybody would ask me to do a job again'? Now, Davis, I have been talking for some years about how those sorts of sentiments are ageist and must be outlawed! It would seem that I still have some work to do."

So it would seem that I was being *ageist*, which is a wicked thing, like being racist or sexist.

On the other hand there is, I assume, nothing wrong in being a member of a particular race, or in being a man or woman; and I would suppose that there is nothing wrong in being of a particular age.

There may, as we shall see, be some advantages.

In any case I remember clearly, as I grew up from childhood through adolescence, being exhorted "to be my age". What does it mean to me to be my age now? and in particular what does it mean to speak of Universities of the Third Age?

Let me try to articulate some reasons why the juxtaposition of age, old age if you like, and the idea of the University is singularly fortunate: some reasons why we must all be glad that this educational enterprise attached itself to university-style teaching and learning.

The juxtaposition would, of course, come as a surprise to many: Do we not associate universities with the young? Are undergraduate students not customarily between 18 and 25 years of age, and postgraduate students under 30? Have we not customarily associated student life with the sowing of wild oats? Is our literature not full of such assumptions? Have students not either irritated their elders and betters or been tolerated by them, but frequently been regarded as irresponsible?

The only thing to be said in their favor is that they grow up, and a surprising number of them become respectable, even staid, members of society.

On the way they have learnt something, some at least of which is of value to the community in which they are placed, all of which seems to qualify them to earn a decent living.

But the great characteristic of true education, which is supremely true of university education, is that it is not so much a passing on of information as an introduction to the process of learning.

The university has always existed not to pass information across the counter like a packet of tea, with instructions on how to brew it, but to teach people how to set about solving particular problems,



● Dr McCaughey addressing the conference.

how to begin to read particular texts, how to learn.

This is not to say that only university graduates have these virtues, or that all university graduates have them.

Plenty of other people have seen the truth that the truly educated man or woman is one who has learnt how to learn: and regrettably some graduates have never understood that.

It is, however, a characteristic of university-style education that it tries to inculcate that attitude of mind, and it should be a characteristic of many graduates that no question is ever really closed.

Questions are to be asked and answers given not because they are convenient but because they are there.

The recent death of MacFarlane Burnet reminds us that some fundamental discoveries made by that notable man of science pre-dated their practical application by 25 years.

Those who knew Burnet will testify that, while by no means indifferent to human suffering and its alleviation, what drove him to ask the next question was a proper scientific curiosity.

Whatever may be said of other styles

of education, however important they may be to us (and of course technical training, an appropriate know-how is essential to our survival as a country and to a better and fuller use of our resources of man and woman power), nevertheless we must retain in university-style education a preoccupation with the truth of the matter — indeed with the truth of a whole series of matters.

Michael Polanyi, the distinguished chemist and philosopher, argued most trenchantly that if pure science is not pursued vigorously and singlemindedly, applied science will soon perish.

That is why universities have to be to a high degree autonomous, because you cannot from outside define or articulate the next right question to ask: that arises out of the inquiries which you are already making.

An essential element in being old is that one has lived for some time. I am thinking quite specifically of the effect of having lived through certain critical moments in the 20th century and being given the opportunity to live through them again with more information and a fresh perception. Many of my generation have experienced this as they have watched the television program on the Spanish Civil War: an event of quite decisive and traumatic significance for those of us who had reached political self-consciousness in the 1930s. Or again the haunting program on *Opermann*, the wealthy Jewish industrialist, bewildered as he is enmeshed in the tangled web of rising Nazism, bringing back to us the awful human dilemma: can things be as bad as they appear, or on the contrary is the worst being hidden from us? There can be, there should be, a depth of perception given to us as we retrace our steps; and that too is part of the university experience.

You of the Universities of the Third Age have a responsibility by example and by exhortation to remind us of the true character of a university, of the true character of learning as, like worship and art and music, a self-justifying activity.

How do you justify in terms of cost benefit a Mozart Symphony?

★ ★ ★
The U3A movement started in France in 1973. (The term, third age, refers to the French idea of an active life phase which follows retirement.)

There are more than 200 U3A campuses throughout Europe, Asia and North America and since the first Australian campus opened in Melbourne in October, 1984, others have been established at Hawthorn, Monash, Ringwood and Frankston.

The University of the Third Age at Monash — U3AM — can be contacted on ext. 2048.

Selling careers to students

More than 20 employers set up stalls for a "careers fair" at Monash, believed to be the first of its kind at an Australian university or college.



They came from organisations including chartered accounting, business consulting, the public service, petrochemical, engineering and mining industries, secondary teaching, banking, computing, insurance, actuarial and the motor industry — at the invitation of the Monash Careers and Counselling Service.

The idea was to make themselves readily accessible to students returning to the University in December to check results and to re-enrol.

The "fair", more properly known as an Employer Contact Centre, was integrated with the University's re-enrolment centre in the foyer of Robert Blackwood Hall.

Careers counsellor, Bryan Barwood, said it was a big success, with several thousand students passing through the centre over the two-day period.

"The idea is to encourage students, particularly those entering second and third year, to give some thought to career planning at an early stage.

"It also gives employers the opportunity to establish a pool of potential recruits and to make themselves known to students.

"We are very pleased with the enthusiastic response of employers to what is essentially a long-term project."

A similar exercise would be run in 1986, perhaps at mid-year and again in conjunction with the re-enrolment centre in December.

Moons come in on cue

• From page 1

tion on which they are based.

And once Dr Prentice had reached the US, he became very uneasy about the values he had used for the level of methane (CH₄) in the atmosphere from which the Uranian satellites formed.

The methane level is critical in determining the temperature at which methane solidifies, and hence the chemical composition of the satellites and how dense they are.

Dr Prentice initially used the best figures available in Australia and that put the band along which satellites form at a level which straddled the temperature at which pure methane could be expected to solidify (see graph).

This would create two classes of satellites — those forming above the solidification temperature in which methane would be incorporated only in a water-surrounded form, and which therefore would contain less than 10 per cent methane, and those forming below the solidification temperature, which would therefore contain more than 90 per cent methane.

The first class would be expected to be about 35 per cent more dense than water, and the second about 40 per cent less dense.

And that was the picture Prentice presented to the American Astronomical Society.

But before his paper went to print, just before the Voyager figures on densities became available, he decided, in light of what he found in the US, that his initial assumptions on methane levels

were probably incorrect.

He added a note to his published paper that if there was less methane around the temperature of solidification would be lower and all the moons would turn out to be denser than water.

And that is the way it turned out.

Miranda, the only moon measured individually, had a density of 1.22 ± 0.37 grams per cubic centimetre, which easily included the predicted Prentice value of 1.35.

The average density of the group Umbriel, Titania and Oberon (when gravity is taken into account) was found to be 1.447 ± 0.079 grams per cubic centimetre, which again agreed with the

Prentice figure of 1.49.

The most significant result, however, was that the average density for all the satellites (without gravity) turned out to be 1.36 grams per cubic centimetre compared with Dr Prentice's 1.35.

The value predicted by his main rival, Dr David Stevenson, a New Zealander now working at Caltech, who favors a collision model, was 1.8.

But what of those amazing cliffs and terraces Voyager found, which scar the surface of Miranda?

Dr Prentice thinks they were probably caused by the methane equivalent of "frost heave", where water seeps under a surface crust and, by expanding when it freezes and contracting as it melts, cracks and heaves the crust.

Not all the satellites have suffered this fate to the same degree.

Umbriel, for instance, seems to have

PRENTICE PREDICTED . . .

- New moons or satellite belts at 68,000 km and 89,000 km from Uranus
- The density of Miranda at 1.35 grams/cubic centimetre.
- The density including gravity of Umbriel, Titania and Oberon at 1.49 grams/cubic centimetre
- Average density (without gravity) of all the moons at 1.35 grams/cubic centimetre.
- The magnetic field of Uranus at a significant angle to the rotational axis.

VOYAGER FOUND . . .

- A new moon at 86,000 km and a new satellite belt at 66,000 km from Uranus.
- The density of Miranda was 1.22 ± 0.37 grams/cubic centimetre.
- The density (including gravity) of Umbriel, Titania and Oberon was 1.447 ± 0.079 grams/cubic centimetre.
- Average density (without gravity) of all the moons was 1.36 grams/cubic centimetre.
- The magnetic field differs by 55 degrees from the rotational axis.

been entirely unaffected.

Dr Prentice suspects the differences are due to heat which in turn is to do with proximity to the planet and size of the moon.

The moons closer to Uranus than Umbriel, such as Miranda, would have been bathed in heat from the condensation of the matter forming the planet itself.

Further out from Umbriel the moons are larger, perhaps sufficiently large to have significant internal sources of heat at their core.

Uranus is unique among the planets in that it spins around its orbit lying on its side, like an overturned top.

According to Prentice, this occurs because the dense rock and ice core of Uranus make up two-thirds of its mass, as compared with only 10 per cent for Saturn and Jupiter.

But he also suggested that the core of Uranus might well be spinning independently of the surface, around an upright axis.

If this were so, then the magnetic field produced by the dense core material would not be aligned as on Earth, with the rotational axis, the magnetic poles and true poles nearly coinciding.

Indeed, Voyager found that the magnetic axis differs by about 55 degrees from the rotational axis.

Success and recognition aside, Dr Prentice still has to convince many critics of his "supersonic turbulence" theory, as well as working on the problem of Neptune for the flyby in 1989 and accounting for the odd moon which does not fall in with his masterplan.

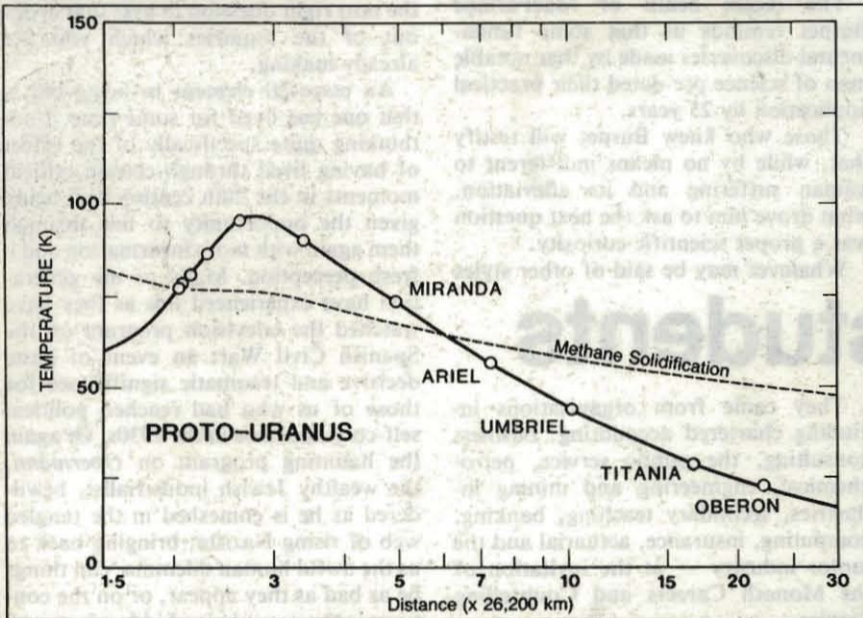
His most pressing problem is to work out the details of the process whereby the gas doughnuts become spheroidal planets.

A former graduate student, Dr Kerry Hourigan, has already taken the model part of the way — up to the point where the heavier material falls together via gravitational attraction to form a central dense ring inside the doughnut.

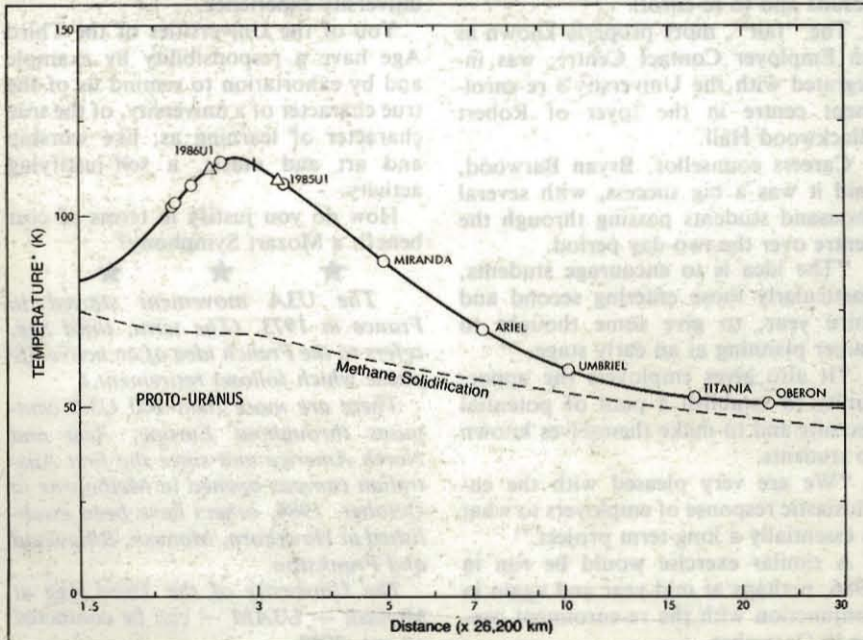
Dr Prentice argues that this ring would then coalesce into a number of small blobs of matter around the ring, which would eventually collide to form a single satellite moving around the same track. But the detail is not clear.

"I would like to produce a computer program to be used to make a video presentation of the whole process."

Tim Thwaites



• Above. The initial Prentice predictions of the spacing and chemical composition of Uranian moons. Some are formed above, and some below the line of methane solidification. Below. The revised Prentice predictions. The triangles show where Voyager found a new moon, 1985U1, and a new satellite belt, 1986U1.



• The new moon, discovered 86,000 km from Uranus, is the only photo of the yet unnamed moon, known as 1985U1.



• The broken surface of Miranda. The cliff face is up to 1 km high.

PEOPLE PEOPLE PEOPLE



● Kevin Perry waits for his VIP passenger.

When the former Dean of Science, Professor John Swan, was Pro-Vice-Chancellor, he "had a mouthful to say" to the truck driver who ran into the rear of the University car in which he was a passenger.

The incident, at a city intersection, was the only time that the Vice-Chancellor's driver, Kevin Perry, had been involved in a car accident during all his years' work for the University.

"The lights were playing up and a policeman suddenly stopped the traffic; Prof. Swan was horrified when the truck hit us," says Mr Perry, who was last month awarded a 20-year National Safety Council Safe Driving Certificate.

He started here in 1962, as one of the team of general drivers, and became a personal driver at the request of the then Vice-Chancellor, Louis Matheson.

He drove the car that brought the present Vice-Chancellor, Professor Martin, and his family to Monash, and has been driving them to official functions and other appointments ever since.

Mr Perry, 58, who lives just two streets from the University, spends weekends at his property at Tooradin where he raises and trains horses.

He is also known for his success with pigeon racing.



● University staff held a farewell function in the Union's Banquet Room in December to honour the retiring Comptroller, Mr Len Candy, centre, and the retiring Registrar, Mr Jim Butchart. Tribute was also paid to Mrs Isabel Butchart who has played an active role in fund-raising for the University.



● Above: The Vice-Chancellor, Professor Martin, was a patient subject when portraitist Brian Dunlop visited him last month for a sketching session. The sketches will form the basis of a portrait the University has commissioned to mark the completion of Professor Martin's 10-year term as Vice-Chancellor, in January, 1987. Photo — Tony Miller.

...ntre of ...anus, as Dr Prentice had predicted. This is the ...

...owing, upper right, is about eight kilometres high.

Educational guide will be Third World gift

A report on educational development in Pakistan has been published for distribution to organisations in the Third World, thanks to a subsidy from the Monash University Publications Committee.

Priorities in Educational Development in Pakistan — Projects and Training Programs will be distributed free or at low cost, through the UNESCO network, to educational institutions, ministries and libraries.

It is the report of an international seminar held in late 1983 at Allama Iqbal Open University, Islamabad.

This seminar followed a series of training programs in educational administration conducted at the Monash Faculty of Education by senior lecturer, Dr Warren Mellor, and funded by UNESCO.

The book was edited by Dr Mellor and Dr M. Athar Khan, co-ordinator of Educational Planning and Management at the Open University. It is published

by the Centre for International Education and Development at the University of Alberta, Edmonton.

The Publications Committee has also assisted in the publication of Dr Philip Ayres's essay, *The Nature of Jonson's Roman History*, in the prestigious American journal, *English Literary Renaissance*.

The essay was accepted by the editors in December, 1984, but it could only be included in this month's special issue on Renaissance Historicism if Monash would meet the printing costs.

Other books published under subsidies from the committee include *Comic Relations: Studies in the Comic, Satire and Parody*, edited by Pavel Petr, David Roberts and Philip Thomson, of

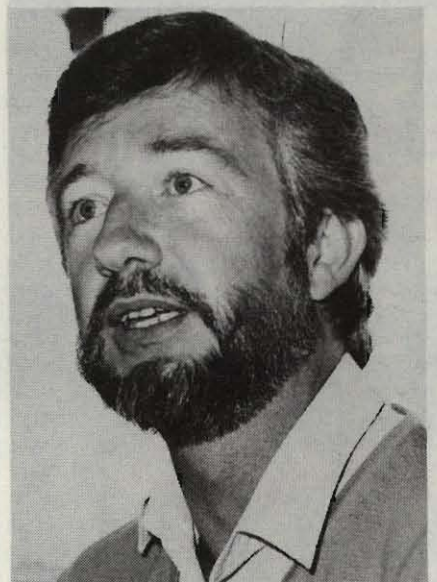
the department of German, and published by Peter Lang, Frankfurt.

This is a compilation of papers presented at an international conference on *Satire and the Modes of the Comic*, held in Melbourne in November, 1983.

It contains articles by a number of other Monash staff, including Leslie Bodi (German), Alba Romano (Classical Studies), Marko Pavlyshn (Slavic Languages) and Clive Probyn (English).

The Monash University Publications Committee was established in 1963, and each year it has about \$10,000 to allocate as subsidies for approved publications.

Its secretary, Charles Lucas, is the University's Publications Officer, and he can offer help and advice to anyone on campus about all aspects of publishing. He can be contacted on ext. 2042 or 2072.



• Warren Mellor.

WHO makes new moves against killer disease

A potentially fatal disease normally associated with animals strikes down hundreds of Victorians each year.

The disease, leptospirosis, is often not recognised in time to prevent serious complications.

"It must be diagnosed in the first day or so," says Professor Solly Faine of the department of Microbiology.

"Unfortunately the symptoms are not characteristic; at first it looks like 'flu, and most recover at that stage.

"Later, in severe cases, it becomes recognisable with typical symptoms including bleeding, jaundice, central nervous system involvement and liver and kidney failure."

Leptospirosis is worldwide and causes many deaths, particularly in developing countries.

Professor Faine, who has been researching it for more than 20 years, was approached in 1980 by the World Health Organisation about publishing informa-

tion on control and treatment.

The result, *Guidelines for the Control of Leptospirosis*, was offset from a manuscript produced in his department, and published under the WHO imprint in 1982.

It is a compilation of articles by 24 contributors from 11 countries, and is widely used as a teaching and reference manual.

Now WHO has recognised its value with editions in other languages, including Arabic and Chinese.

Japanese and French versions are also on the way.

Professor Faine says leptospirosis is very hard to detect in animals, and those which recover become carriers, passing bacteria out in their urine to infect other animals and humans.

People most at risk in Australia in-

clude farmers, dairymen, abattoir workers, rice and sugar-cane workers.

But cases recently recorded in this State include a Monash zoology student who contracted the disease while trapping native rodents in the Dandenongs during field work.

Leptospirosis has also been found among water-skiers and white water canoeists and raftsmen using inland waterways in Europe. It is believed bacteria from contaminated water enter their bloodstreams through minor cuts and abrasions.



• Professor Solly Faine in his laboratory.

Overseas writers first on lunchtime program

Two international writers visiting Adelaide for Writer's Week will be first on the program of Monash Lunchtime Readings for 1986.

Indian poet, Kamala Das, will read and discuss her work on Thursday, March 13; and English novelist, David Lodge, Professor of Literature at Birmingham University, will present excerpts from his acclaimed books, *Changing Places*, *Small World*, and the newly-published *How Far Can You Go?*, on Thursday, March 18.

Both sessions begin at 1.10 pm in R3 (Rotunda).

The series of readings is again being presented with assistance from the Vera Moore Fund, the Dean of Arts, and the Literature Board of the Australia Council.

Phillip Martin of the department of English, who organises the readings, says the Literature Board is continuing to offer its support because it believes the series is worthwhile.

"It's not just for people associated with the English department — it's for all staff, students and members of the public who enjoy hearing writers read and discuss their work," he says.

Later in first term, Hector Monro's comic poem, *Don Juan in Australia*, will be launched, and sometime during the year there will be readings by Monash poets on campus, as well as a *Back to Monash* reading by three widely-read poets, Alan Wearne, John A. Scott and Laurie Duggan, who began their careers here.

Other visitors will include Dimitris Tsaloumas and Chris Wallace-Crabbe.

BRIEFS

Garage sale

The Monash University Parents' Group is inviting sellers and buyers to get together in the Humanities Car Park (next to the bus loop) on Sunday, March 16, for a Monster Garage Sale.

Selling sites may be hired at \$8.50, \$12, or \$15, and the sale will run from 8 am to 1 pm.

The group is inviting donations of goods for its own stall, including household linen, cutlery, crockery, electrical goods and other items of use to students setting up in flats and rooms.

For bookings and further information contact Mrs Rosemary Mitchell, 570 3337, or Mrs Gloria Parker, 876 1609.

Last year, the group raised \$7,009 which was distributed as follows:

Main Library	\$2310
Hargrave Library	\$1200
University Union	822
Robert Blackwood Hall	450
Faculty of Economics	450
Faculty of Education	133
Faculty of Engineering	510
Faculty of Science	1134

Since the group was formed in 1966, it has raised more than \$95,000 for the University's benefit.

Cut-price tickets

Students will benefit from the newly-introduced "youth" price for tickets to the Melbourne Symphony Orchestra's 1986 Perspectives series at Robert Blackwood Hall.

The new rates, mostly less than half price, apply to people under 21, or to students up to 25 years (inclusive).

They are: A Reserve \$8 (Adults \$16.20, Concession for pensioners and unemployed \$13); B Reserve \$6.50 (\$13, \$9.80); C Reserve \$5 (\$9.80, \$8).

Perspectives is part of the ABC Concert Music program, and was previously known as the Monash Series.

It presents a wide range of music which explores some outer reaches of the art.

Ripping yarns served a social purpose

For Australians past 50, the phrase "boys school stories" arouses deep nostalgia for the Magnet and Gem, published in England for more than 30 years up to the beginning of the last war. They were weekly papers, surely superior to "comics".

Probably nothing we have met since in print has given us so much simple fun. In Magnet, the heroes of Greyfriars — Harry Wharton, Frank Nugent, Hurree Janset Ram Singh (who would arouse readers' shrieks against racism today) and Billy Bunter, that quintessence of greed, cowardice, ineptitude and stupidity, acted out a fantasy which, strangely, we could identify with from our different circumstances on this side of the world.

In Gem, Tom Merry's gang at St Jim's included that comical fop, Arthur August D'Arcy — a Superpom indeed! — but, without a Bunter, ran only second. It never occurred to us that the whole lot, anyway, were by a single man!

We didn't care who wrote the stories. We didn't wonder for a second how they came to exist. It never crossed our minds to ask what part they had in their tradition and society. We never stopped to ponder the effect they might be seeking to have on us.

Peter Musgrave, newly-retired Professor of Education, was not so content to leave these and similarly fruitful questions alone.

In *From Brown to Bunter* he studies British boys' school stories from the early 19th century to beyond the last war, working largely at Cambridge.

For us Magnet-Gem buffs, with our treasured memories, Professor Musgrave has a chastening message. Those stories, far from being at the height of the art, and central to the genre, were rather on the faded side, at the dying end of things.

And although their creator, Charles Hamilton, was an amazing man who turned out more than 7000 stories under

IN REVIEW

From Brown to Bunter by Peter Musgrave

Routledge and Kegan Paul, London
(Subsidised by the Monash University Publications Committee)

28 names before he died in 1961 at the age of 84, he hardly ranks in fame or achievement with other creators.

The seminal names include Thomas Hughes, author of *Tom Brown's Schooldays* (published in 1857), and Dean Frederick William Farrer, creator of that cautionary tale, *Eric or Little By Little* (1858), together with the astonishing Talbot Baines Reed, who, while carrying on an active business career, and meeting many social responsibilities, produced a stream of boys' stories, as serials, books and single yarns over 14 years, towards the end of the century, as a pillar of the *Boys Own Paper*.

Other writers far better remembered today have their roles in Professor Musgrave's story — Rudyard Kipling (certainly a crucial figure), P. G. Wodehouse, Oscar Wilde, Henry James, Alec Waugh (and in a lesser way his brother, Evelyn), Charles Dickens, of course, John Buchan, E. M. Forster, Rider Haggard, Somerset Maugham, George Orwell, Charlotte Yonge and Hugh Walpole among them.

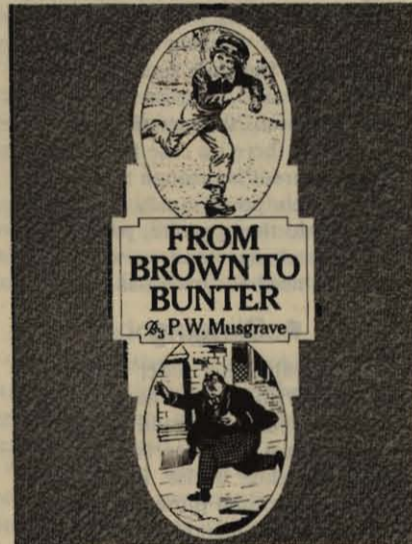
The tapestry becomes complex as Professor Musgrave sets out to "describe the meaning (of the genre) for those alive then, and . . . to uncover its structure and the ways in which this was linked to the wider society."

He not only gives biographies of major writers, and summaries of the most important stories, but reaches farther to describe how each major book was received in its time, and its effects.

Not content with that, he relates single works, and the broad stream of

the genre over the years, to questions of social class in Britain, and to religion, politics, economics, the Empire, and whatever else his eye sees as relevant.

The outcome is that, even for those who have never known Magnet or Gem, and may not have been aware of school boys' stories more than briefly at any time, Professor Musgrave creates a mirror in which we can see reflected a great deal of ourselves.



tish education, at both the private and State school levels, came to shape influentially the ideas by which Australians have been educated in their turn.

A key problem that Professor Musgrave faces is how to explain why, following on the appearance of a few

What happened over the years he is

discussing is that developments in Bri-early stories, Tom's school days at Rugby and the regrettable demise of foolish little Eric, had such a great impact, only to be followed by a comparative lull, until the genre became revitalised by Reed and others, and then, having changed greatly in its inner ideas and feelings, became modified into the modern modes of the first half of this century.

One of the best illustrations of how he does this, in the 259 pages of his text, is his examination of the forces within Britain's economic and political frameworks, religion and morality, the family and the education system — what he calls the "social structural supports" — in the second half of last century.

Population rose, schools increased, with education becoming compulsory from five to 12 under the 1876 Education Act. The proportion of society seen as "middle class" increased. Greater wealth and wider literacy arose.

At the same time, both patriotism and Imperialism flourished, and writers could tap more effectively the swelling sentiment of the British white man's duty to the spread of British power abroad, and to the peoples it overwhelmed.

Religious feeling — non-Catholic Christianity — was still "very central" to many Victorians, particularly among the higher social classes (although being challenged after 1859 by Charles Darwin's *Origin of the Species*). Morality was closely linked to concepts of patriotism, honor and duty to Britain and the Queen. Honor was linked to "purity".

Manliness and the muscular ideal were related within the family to ideas about the nature and roles of women, and to the expression, or suppression, of natural emotions.

In the schools, the problem of games or brains was still not settled . . . but ideas of "character", endurance, energy, and of initiative within the approved social system were deep. Fascinating!

Noel Hawken



• Standing (from left): Mr Val Botte, chairman, Ukrainian Studies Support Fund; Professor Jiri Marvan, chairman, department of Slavic Languages; Mrs Slava Boluch, board of directors, Joseph and Emilia Pona Foundation; Mr Jaroslav Mychailyszyn, secretary, Ukrainian Studies Support Fund; Dr Marko Pavlyshyn, Slavic Languages; Dr Bobba Vladiv, Slavic Languages; Professor Vasyl Markus, Loyola University, Chicago; Mr Eugene Damian, Slavic Languages; Mr John Browne, Vice-Chancellor's Department. Seated: Mr Stepan Lysenko, president, Association of Ukrainians in Victoria, and Professor Ray Martin, Vice-Chancellor.

The Ukrainian community will continue to underwrite a lectureship in the department of Slavic Languages following the success of the first three-year agreement which established the scheme.

Officers of the Association of Ukrainians in Victoria have signed a new

agreement to support the Lectureship in Ukrainian, presently held by Dr Marko Pavlyshyn, for another three years.

Ukrainian Studies at Monash is the first tertiary course of its kind in Australia, and is seen as playing a vital role in keeping the language and culture alive.

The association has established a committee to raise \$500,000 to put the future of the course beyond doubt, and this goal was given a massive boost late last year with a donation of land worth at least \$100,000 from a Ballarat couple, Joseph and Emilia Pona.

Did you Ken?



The mystery verse on page one is but the first stanza of a mighty epic penned by Peter Le Poer Darvall for the farewell feast of former Dean of Engineering, Ken Hunt. (The rest can be viewed by contacting the author on ext. 3445.)

Professor Hunt, who retired at the end of last year, was feted at Deakin Hall by some 100 present and former colleagues, including the University's first Vice-Chancellor, Sir Louis Matheson.

He was the fifth staff member hired by the new University, and was Foundation Professor of Engineering, and Dean until 1975.

He will be awarded an honorary degree, Doctor of Laws, at the Science and Engineering Graduation Ceremony on Wednesday, April 23, when he will also be the Occasional Speaker.

Dangers in tying the reward to the product

In an occasional address to Monash graduates in December, Mr Hugh Stretton, Reader in History at the University of Adelaide, looked at why academics' rewards and incentives seem to be attracting more public interest and criticism now than for some time past.

Academics probably average no greedier or more generous than anyone else. They want the rate for the job, whatever it happens to be. Where outside earnings are customary, they want them. Where not, not. The point is that the work doesn't appear to vary with those circumstances.

In a few departments, some of the opportunities to earn by consulting are actually in conflict with more productive research, and of course with teaching.

In the social sciences and humanities there are special dangers in tying the reward to the product in any direct commercial way.

Most of these disciplines are selling, among other things, social beliefs and persuasions. The most coldly factual social research still has to be selective in the questions it asks, and the directions of its casual analysis.

To be topical: You can research the current leaders of the Builders Laborers Federation (if you have a commando company for protection) with perfect objectivity.

You can research the living and working conditions of the union's members. You can research the effects of building costs on the hard-pressed people who need public housing at the lowest possible cost.

And you can research the effects of building costs on the rates of profit, capital gain and tax avoidance achieved by commercial building developers.

Few researchers do all four. But any one or combination of some of the four is likely to be persuasive in one direction or another to public or policymakers.

I need not labor the point: the research most of us do can't help being more helpful to some interests than others.

So — to put the extreme or ideal case — if resources for social and economic research were allocated in a pure market way to the highest bidders, would the result be as market theorists expect when other productive resources are allocated in that way, namely that the resources will be put to their most productive uses, in some consensual social meaning of 'most productive'? In common sense, no.

The resources are likely to go to the richest bidders, who are likely to use them to get richer still.

Rational self-interest would direct us, as researchers, to develop not only the skills but also the values and opinions and persuasions which appealed to the richest commercial bidders.

It is easy to conclude that our traditional salaried independence is generally best, or anyway least bad.

But we should remind ourselves from time to time how lazy or corrupt or otherwise unproductive academics have often become if left entirely to themselves for too long.

Adam Smith found 18th century Oxford full of drunken sloth.

There was some sober sloth in the Australian universities before the 1940s — not much research was done. Are we slipping again now, a generation after the Murray Report and our last drastic reconstruction?

I suspect that a cool observer might find us not unproductive but a bit greedy and self-satisfied in a whingeing sort of way.

With sins like our government's, why

dwell on our own? But we should, and I will, dwell on some of our own, to show fair-minded, though my list of sins won't agree with all of yours.

Here are half a dozen, just as samples:

- It is not long since one of our learned academies offered an unlawful tax-avoidance device to its members (which was one offence) then denied that its officer had done so (which made two).
- Plenty of academics whose publishers don't own their jobs still prescribe books from which they draw royalties. If they must do that, they could at least divert the relevant royalties to their students or their departments.
- We have, and FAUSA supports, a pay structure that pays next to no regard to either need or productivity. Most academics need most money early in their working lives, especially if it is to free their time for sustained hard work. Most do better work in their first 20 years than in their last 20. If there's a case for breaking their tenure it is through their last 20 when their powers may be failing. But we do the opposite, paying high and granting tenure when the greatest need for both has passed.

● Clinging

- It is desirable that older academics, if they wish, or perhaps if their employers insist, should be able to step down a grade or two to lower pay and lighter duties. Led by some South Australian public enterprises, Commonwealth and State public services are moving in that direction, stopping tenure below the top, so that the best people can do the hardest jobs through their best years, on contract as chief executives or heads of department or the like, then return to responsible but less wearing duties at their tenured levels for their later years. It requires that superannuation rights be geared to the best, not the last, earning years. But we just introduced, and FAUSA supports, a national superannuation scheme which effectively prohibits any spread of the wholesome principle to the universities. A 55-year-old professor can get his or her best pension by retiring immediately, or by clinging to the chair until 65; but there are prohibitive penalties for taking a lectureship or reverting to a readership for the last 10 years. And there are also temptations to start giving people "retirement promotions" in their last years, to inflate their pensions. (Some Commonwealth departments have done that in the past.)
- I think FAUSA's policy of preferring Australians to others for academic appointments is likely to dull our quality, and is anyway as reprehensible as any other racist discrimination.
- Consider this: Like most academics my conditions of employment require me to spend half my working time researching and writing. So if I write a book I'm salaried to do it, which is a lot more than most professional writers get for doing it. When the book is published I get standard royalties, so I'm paid a second time. Getting that book out perhaps earns me promotion to the next academic



● Mr Hugh Stretton, centre, speaks with the Chancellor, Sir George Lush, left, and the Dean of Arts, Professor John Legge, after the graduation ceremony in December. Photos: Steve Morton.

grade, so I'm paid a third time. The Society of Authors has won its long campaign to have the taxpayer pay me for public lending rights, so I can be paid a fourth time. The new copyright rules entitle me to a fee whenever a student photocopies more than a tenth of the book, so I can be paid a fifth time. All those layers of pay, if collected at all, should really go to whoever pays us to write the book in the first place. But most of us go on with our double-double-double-dipping.

Some academic books pay like that and others don't. That consideration has very little to do with most of the research choices of most academics most of the time. We could commercialise more of the options if we tried, at least to a Californian extent. But there's no need to, and no good reason to expect better performance if we do.

Most of the best of both natural and social science has been done by salaried people without direct market incentives. It would be easy to say why: to describe in terms familiar to everyone here the complex and diverse motivation that inspires the best work: the desire to be famous, to be promoted, to reform the world, whether from love of some of its people or hatred of others, and the joys of art, craft, invention, discovery, and self-expression.

● Exiled

I could describe all that, but I'd rather you heard it from someone better: specifically from one of the foreigners FAUSA now wants to prevent our hiring, or working with, or learning from.

Some of you know George Konrads' and Ivan Szelenyi's democratic socialist analysis of communist Hungary, *The Intellectuals on the Road to Class Power*, published in German and French and English some years after the discovery of the manuscript had the authors exiled in 1974.

Why did they put personal safety, freedom, careers and their families' futures at risk, just to write an unorthodox book?

One paragraph in the book says why. It says it of dissident intellectuals in general, not of themselves in particular. It almost certainly understates their own courage and generosity and desire to put the world right.

Those who worked with Szelenyi through his years of exile in South Australia know that he worked about twice as long, twice as hard, twice as well and about twice as generously for his students and colleagues as anyone else about the place.

But the book's account of unorthodox thinkers' motives is quite hard-headed, and it's my favorite metaphor in all the literature of social science. I end this address, and thank you once again, by reading it to you.

"Imagine an ardent hunter who after prowling around for ages in potato fields suddenly stumbles onto a game preserve whose keepers have not allowed anyone in living memory to hunt or even photograph the game. He can be certain that even without a crack rifle and a peerless eye he can still acquire there trophies which will give him the reputation of a matchless nimrod and make him the toast of every field-and-stream show. Similarly, the intellectual who sets out to explore the reservation of ideological taboos is drawn to forbidden territory not so much by an indomitable heroism which shrinks from no danger as by the prospect of any easy bag, and by the reward not only of the abstract joy of intellectual discovery but of domestic and even international acclaim for his original achievement."

With all that to drive or inspire or tempt us, we don't actually need market temptations too.



● Dr Michael Fett, who was awarded a Doctor of Medicine at the December graduation for his thesis, *Mortality among former national servicemen*, already has B.Med.Sc., M.B. and B.S. from Monash, and an M.P.H. from Harvard. His sister, Harriet Fett, graduated B.A. at the same ceremony, which was also attended by their mother, Dr Ione Fett, senior lecturer in the Department of Anthropology and Sociology, who has an M.A. and Ph.D. from Monash.



Doctorate for son of ex-VC

• Tim Scott, son of former Vice-Chancellor Professor W.A.G. (Bill) Scott and Mrs Margaret Scott, is pictured with his parents after the December 4 graduation at which he was awarded his Ph.D. for a thesis entitled *The Elizabethan double plot*.

Conserving household energy

The Arts and Crafts Centre's autumn term began this week, with several new subjects added to the old favourites, including vegetarian cooking, advanced silkscreen, alternative jewellery making and home energy reduction.

The weekend workshop series has also been expanded and the March program is as follows:

Saturday, March 15: Basketry, Printing from slides, Chocolate making.

Sunday, March 16: Massage, Fabric collages, Fabric designs for woven garments, Printing from color slides.

Saturday, March 22: Calligraphy, Soap and cosmetics, Seminole patchwork.

Sunday, March 23: Fragrant crafts. Free brochures are available from the centre, or by phoning ext. 3096 or 3180. Students receive a 50 per cent discount, and staff, 10 per cent.

CAMPUS VISITORS

ANATOMY

Mr A. T-P. LEUNG *Hong Kong* 26 Nov '85 for 12 months

*Dr H. D. M. MOORE *Inst of Zoology, London* 13 Nov '85 for 3 months

*Prof J. C. SHARPE *Omaha* May '86 for 6 months.

Dr W. ZHONG-XIONG *Guangdong Res Inst of Family Planning, China* 16 Dec '85 for 15 months.

BOTANY

*Dr B. GOTT *Aust Inst Abor Studies* 1 Jan-Jun '86

COMMERCIAL LAW & APPLIED

LEGAL RESEARCH Centre for Mr R. YORKE, QC *English Bar* Apr '86 for 1 month

EARLY HUMAN DEVELOPMENT

Centre for Dr M. MONK *University Coll, London* Feb-Apr '86

ECONOMICS

Dr G. SAMPSON *UNCTAD* 23 Dec '85-3 Feb '86

ECONOMICS & OPERATIONS

RESEARCH Mr B. P. M. McCABE *Leeds* 1 May '86-Jan '7

*Prof T. KINAL *SUNY* late May-Aug '86.

EDUCATION

Mr M. BEN-PERETZ *Haifa* May-Aug '86

*Prof L. M. CANTOR *Loughborough U of Tech* mid-Feb-mid-Apr '86

Dr R. J. CARNEY *Alberta* May/June '86 for 6 weeks

*Prof R. D. GIDNEY *Western Ontario* Jul-Aug '86

*Dr J. HARDING *Chelsea Coll, London* 15 Mar-23 May '86

Dr D. WHITEHEAD *London* Apr-May '86

ENVIRONMENTAL SCIENCE Mr D. EVANS *Melbourne* early '86 for 6 months

Emer Prof A. NAESS *Oslo* Mar-May '86

GENETICS

*Dr H. MATSUMOTO *Shinshu* Jun '86-May '87

GERMAN

*Prof W. BESCH *Bonn* 1 Mar '86 for first term

HISTORY

Prof J. HOFF-WILSON *Indiana* Jun '86 for 6 weeks

HUMAN BIOETHICS Centre for Prof M. SOMERVILLE *McGill* Jan-Mar '86

LAW

Mr N. GASKELL *Southampton* Jan '86 for 11 months

Prof S. LIND *Florida* Jan '86 for 6 months

*Prof K. IWASAKI *Ehime* May '85 for 10 months

MATHEMATICS

*Prof J. FUGATE *Kentucky* Jan-Jul '86

Dr G. HALL *Aberdeen* Jan-Mar '86

Dr L. C. JOHNSTON *Victoria, Wellington* Jan-Dec '86

Dr J-E. PIN *Université Pierre et Marie Curie* 28 Jan-Mar '86

MECHANICAL ENGINEERING Prof B. J. VICKERY *Western Ontario* 17 Feb-2 Mar '86

MEDICINE Prof W. J. WILLIAMS *SUNY* Apr '86 for 2 weeks

MICROBIOLOGY Dr S. MAN-HUA *Inst Epidem & Microbiol, Beijing* Jan '86-Jan '87

MIGRANT & INTERCULTURAL STUDIES Centre for

*Prof W. BESCH *Bonn* Feb-Apr '86

*Dr K. de BOT *Nijmegen* Jun-Jul/Aug '86

Prof K. ENLICH *Dortmund* Apr '86 for 7-10 days

PAEDIATRICS Prof P. NIKNAPS *Kerman* Jan-Sep '86

PHARMACOLOGY Dr S. SOH *Malaya* Feb-Aug '86

PHYSICS Mr M. GUI-SHENG *Xuzhou Teachers'* Jan-Mar '86

Dr C. G. WINDSOR *Atomic Energy Res Estab, UK* 2-16 Feb '86

PHYSIOLOGY *Assoc Prof R. J. HARVEY *Otago* 29 Nov '85 for 9 months

Prof A. IGGO *Edinburgh* early Mar '86 for 3 weeks

Prof W. KOZAK *Carnegie-Mellon* 10 Jan '86 for 6 months

ZOOLOGY Prof M. F. WILLSON *Illinois* 15 Jan-14 May '86

*Visitor accompanied by spouse.

Learn more about California exchange

An opportunity for Monash students to spend an academic year at a US university will be given a boost on Wednesday, March 12, with the arrival on campus of Professor Sam McCulloch, the University of California student exchange scheme's Director for Australia.

Under an agreement negotiated between the Monash University Council and the Regents of the University of California, up to five undergraduates or graduates will be allowed to continue their academic work at the University of California without payment of tuition fees for one academic year, beginning in January or March, 1987.

The agreement also enables a similar number of University of California students to enrol at Monash.

Professor McCulloch will be available for consultation about the scheme in Room 110 on the first floor of the Humanities Building on March 12 from 10 a.m. to 12 noon, and from 1.30 p.m. to 4 p.m.

Any Monash student in the scheme would continue to be a candidate for a Monash University degree, and, depending on the choice of subjects, it would be possible for studies taken at the University of California to be credited towards that degree.

Students will be selected on academic grounds, and on the basis of their aim in wishing to study at the University of California.

Each student will be responsible for his or her travel, living and incidental expenses.

These are estimated to be at least \$US10,000, excluding return air fare and assuming on-campus housing.

Inquiries should be directed to the Academic Services Officer, Mrs Joan Dawson, Registrar's Office (ext. 3011).

Catalogues for the nine campuses of the University of California (Berkeley, Davis, Irvine, Los Angeles, Riverside, San Diego, San Francisco, Santa Barbara and Santa Cruz) may be seen at her office.

Applications for the scheme close on Wednesday, 23 April, 1986.

Conference on 'rules' for AIDS

• From page 3

"A separate question is whether it ought to be sold, and whether it ought to be sold by a university.

"I think the sale is very acceptable because the money is coming back to help further research."

She says the IVF program is one where there should be great emphasis on letting patients down gently after treatment failure.

"I have a lot of belief in the psychological component of medicine, and no area is as fraught with psychological components as the IVF one.

"There is a great risk of anger, disappointed expectations — and sometimes a law suit — in dismissing a patient after failed treatment.

"People generally don't sue when they feel they have a good relationship with their doctor even when things have gone dramatically wrong — they sue when they feel physically and psychologically abandoned.

"If they are suddenly dropped they try to re-establish a bond with the doctor, if necessary through a hostile relationship, so a proper 'de-briefing' is very important."

Professor Somerville will be a speaker at a national conference on Acquired Immune Deficiency Syndrome at Clunies Ross House, Melbourne, next month.

The conference, organised by the Centre for Human Bioethics, and titled *AIDS: Social Policy, Ethics and the Law*, will look at questions of discrimination, confidentiality, the need for blood tests and the kinds of advice that should be given about avoiding or dealing with AIDS.

"We have to be extremely careful in using the law, so that it does not do more harm than good," says Professor Somerville.

"We must keep in mind that the overall goal is to keep the disease from spreading.

"A law which carries something symbolising alienation or stigmatisation might defeat the whole purpose."

(The conference will be held on Monday, April 7, and registration can be made through the Centre for Human Bioethics, ext. 4083 or 3373.)

IMPORTANT DATES

The Registrar advises the following important dates for students in March:

3 First Term begins

First Term begins for Medicine I, II and III

First half-year begins for B.Ed., B.Sp.Ed., Dip.Ed.Psych., M.Ed.St. and LL.M. by coursework.

First Term begins for M.Eng.Sc. by coursework

10 Orientation for part-time and mature-age students (family day) 12 noon. Sports and Recreation Centre.

11 Publication of results for Law Summer Term.

14 Closing date for change of course, subject or unit taught in the first half-year or over the whole teaching year. Last date for discontinuation of all studies by not-for-degree, diploma, bachelor degree and Master Preliminary candidates, and by Master candidates defined as coursework candidates, to be eligible for 100% refund of the 1986 Union fees paid (not applicable to students taking Summer Term subjects.)

Closing date for new enrolments for LL.M. by coursework not taking Summer Term subjects.

19 Graduation Ceremony — Science

23 Orientation day for parents of first-year undergraduate students 11.00 am Robert Blackwood Hall.

27 Last date for return of T.E.A.S application forms to the Commonwealth Department of Education in order to receive payment of entitlements retrospective to 1 January 1986.

28 Good Friday Holiday

31 Easter Monday Holiday

COURSES & AWARDS

Three fellowships are available for 1986 for established scholars and librarians to use the National Library facilities for three to six months. Benefits include travel costs and grant-in-aid. Application forms are available from the Director-General, National Library of Australia, Canberra 2600. Applications close on April 30, 1986.

★ ★ ★

The Clive and Vera Ramaciotti Foundations are currently inviting applications for 1987 research grants in the field of medical research. Applications close with Mr Bruce Shields on Monday, June 30, 1986.

One small step . . .

This is the first in an (possibly) occasional series on car parking spaces which offer food for thought. Even the powers-that-be felt uncomfortable about the obvious discrepancies between the "Disabled parking" designation and the in-built obstacles, left, so sometime during summer vacation the problem was remedied.



MONASH REPORTER

The next issue will be published in the first week of April, 1986.

Copy deadline is Friday, March 21, and early copy is much appreciated.

Contributions (letters, articles, photos) and suggestions should be addressed to the editor, Lisa Kelly, Information Office, University Offices, or ring ext. 2003.

Chess club champions await your move



Ready to develop your chess?

If so, you'll be in champion company at Monash where the chess club has taken out top honors for the State two years running.

Last year's victorious team are, from left to right, Guy West, Murray Smith, Ross Thomas and Matthew Drummond, winners of the A-grade premiership in the Victorian Chess Association's Inter-club competition.

But don't be disheartened by the high club standard; everyone is welcome from beginners to master strength.

The club is almost as old as the University and its rooms, upstairs in the Union Building (next to the Mature Age students' lounge) are open from 8 a.m. to 8 p.m. weekdays.

This year there will be regular Monday night tournaments as well as the usual informal arrangements for games, and newcomers are invited to call at the club rooms.

MARCH DIARY

The events listed below are open to the public: "RBH" throughout stands for Robert Blackwood Hall. There is a BASS ticketing outlet on campus at the Alexander Theatre.

- 3: **ARTS & CRAFTS** — Courses and workshops for first term starting. Free brochures available. Inquiries: ext. 3180, 3096.
- 5: **ENVIRONMENTAL SCIENCE FORUMS** — "Beginning the course" — students' past experiences and course directions. **MARCH 12:** "Experiences of the course" — present students' perceptions. **MARCH 19:** "Staff — Biographies and world views." **MARCH 26:** "Appropriate technology education: The experience of a Centre for Alternative Technology", by Damian Randle, Wales. **Environmental Science Seminar Room.** All forums at 5.15 pm. Admission free. Inquiries: ext. 3839.
- 6: **SOUTH EAST ASIAN STUDIES SEMINARS** — "The National Election in the Philippines", by Amando Doronila (Politics). **MARCH 20:** "The West Papuan Challenge to Indonesian authority in Irian Jaya; Old Problems, New

Possibilities", by Ian Bell, Herb Feith, Ron Hatley (Politics). 11.15 am **Room 515, Menzies Building.** Admission free. Inquiries: ext. 2197.

- 6: **RELIGIOUS CENTRE** — Service to mark 25th Anniversary of the University, with guest speaker, the Roman Catholic Archbishop of Melbourne, the Rt Rev. Dr. T. F. Little, organist Assoc. Prof. Bruce Steele, and the Education Faculty Choir, conducted by Dr. Alan Gregory. 1.10 pm. Inquiries: ext 3160/1/2.
- 11-22: **COMIC OPERA** — Gilbert & Sullivan pres. "Pirates of Penzance", starring June Bronhill and Norman Yemm. Nightly 8 pm. Matinees 2 pm, 15 and 22. **Alex Theatre.** Inquiries: 543 2255.
- 12: **PUBLIC LECTURE** — "Disarmament and Arms Controls", by Richard Butler, Australian Ambassador for Disarmament. Admission free. 7.30 pm. R1. Inquiries: Frank Wess, 611 5449.
- 13: **LUNCHTIME CONCERT** — Melbourne Symphony Orchestra, conducted by David Measham: Symphony No. 25 In G minor, Mozart. Three

movements from the Planets Suite, Holst — Mars, Venus, Jupiter. **R.B.H.** Admission free. 1.15 pm.

- 13 & 15: **EVENING CONCERT** — "The Spirit of India", featuring the graceful Kuchipudi Dancers. Direct from the Adelaide Festival, sponsored by Monash Dept. of Music and Jataraj Cultural Centre. 7.30 pm. **R.B.H.** Admission: adults \$14, students/pensioners/unemployed \$11, children \$8.
- 14: **EVENING CONCERT** — "The Spirit of India", featuring Amaja Ali Khan and Madurai Sheshagopalan. Direct from the Adelaide Festival, sponsored by Monash Dept. of Music and Jataraj Cultural Centre. 7.30 pm. **R.B.H.** Admission: adults \$14, students/pensioners/unemployed \$11, children \$8.
- 16: **MONSTER GARAGE SALE** — Monash University Parents' Group invites sellers and buyers to get together in the Humanities car park from 8 am to 1 pm. Inquiries and reservations: 570 3337, 876 1609.
- 17: **MIGRANT STUDIES LECTURES** — "From the outside looking in: A Victorian perspective on ethnic women's affairs", by Hanifa Dean-Oswald, Ethnic Affairs Commission. 1 pm. R6. **MARCH 24:** "Finding the handicapped

migrant", by Dr Gillian Fulcher, Sociology, Monash. 7.30 pm. R6. Admission free. Inquiries: ext. 2245.

- 17: **LUNCHTIME CONCERT** — Victor Sangiorgio — pianist, presenting a special program of works following a tour of Europe and London. **R.B.H.** Admission free. 1.15 pm.
- 21: **BLOOD BANK** — Ground floor, **Menzies Building.** From 9 am to 3.45 pm.
- 22: **1986 ANNUAL CONCERT** — Chinese music by the Chao Feng Chinese Orchestra. 8 pm **R.B.H.** Inquiries, bookings: 662 1980.
- 24: **LUNCHTIME CONCERT** — "Il Pastor Fido" presents music of Vivaldi, Telemann, Hotteterre, Duphy. Elizabeth Anderson (harpichord), Garry Morcom (baroque oboe), Gary Ekkel (baroque flute), Paul Jones (cello), **R.B.H.** Admission free. 1.15 pm.
- 27: **EVENING CONCERT** — The Preston Symphony Orchestra conducted by Philip Green, together with the combined Monash University Choral Society and the Melbourne University Choral Society. Soloist: Linda Smurden (soprano), Suzanne Ward (mezzo soprano), Lawrence Allen (tenor) and Jerzy Koslowski (bass). Pres. the Verdi Requiem. **R.B.H.** Admission: adults \$8, concession \$5. 8 pm. Inquiries, bookings: 544 5448.