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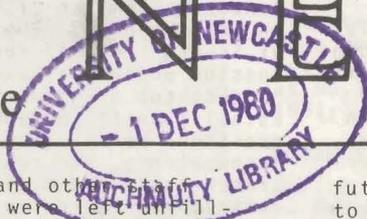
Nov. 27, No. 21

Final issue 1980

Newsletter for
The University of Newcastle



UNIVERSITY NEWS



This final issue of *University News* for 1980 marks the end of another busy year in the life of the University, a year which has not been without its difficulties, but which nevertheless has had many highlights. Scanning the headlines of the twenty earlier issues of the *News* this year reminds us of many key events and changes - a new main computer installed on campus, a newly-formed Council with greater staff and Convocation representation on it, a wide range of interesting University visitors, sporting, drama and social events of note, and reports of the accomplishments of individual members of the University in which we can all take pride. A pleasing new feature of the *News* has been the introduction of Higher Degree Reports, in which postgraduate students have told us about the results of their research work.

A disappointment was the further drop in student numbers to 4302, or around six per cent fewer than our peak enrolment in 1977. Approximately 25 further

academic and other staff positions were left unfilled in order to balance the budget and it is unlikely that these positions can be restored until there is a significant change in federal policies towards the funding of universities. Of this there is no sign at present and there is an increasing concern about the long-term effects these and other cut-backs are having on the health of our institution. The Review of University Finances released in mid-year examined in minute detail the use we are making of our recurrent grants and will be the subject of ongoing debate in 1981, as will the TEC Reports for the 1982-84 Triennium when they are released.

The strength of the University remains the quality of the teaching and research undertaken by its staff and students. That so much is being accomplished despite all the difficulties is a tribute to the dedication of all concerned - a commitment to the pursuit of excellence that cannot be lightly shaken or weakened by doubts about the

future. It is a pleasure to acknowledge this dedication and commitment when expressing best wishes to all for Christmas and the coming New Year.

Elsewhere in the *News* are reflections by some of those who are shortly to retire from the service of the University. In thanking all staff for their contributions, I would particularly like to acknowledge my personal indebtedness to Professor Alan Tweedie, who as Vice-Principal has provided such constant support for me over the past six years. We wish them all well in retirement.

D.W. GEORGE.



CHRISTMAS MESSAGE 1980



Research grants

Mr. Frank Murray, of the Department of Biological Sciences, and Emeritus Professor Ian Stewart, Honorary Professor in Chemical Engineering, have attracted research grants valued at \$83,791 from the National Energy Research, Development and Demonstration Council.

Mr. Murray received a maximum grant of \$73,391 allotted over three years for a project

entitled Thresholds of Sulphur Dioxide Injury for Plants Under Field Conditions.

Professor Stewart is the recipient of \$10,400 for one year to continue his work on In-situ Gasification of Coal.

The knowledge primary school children have about cigarette smoking and their attitudes and behaviour concerning it are to be evaluated by Professor Stephen Leeder, of the Faculty of Medicine.

Professor Leeder has received a grant of \$14,900 from the New South Wales Cancer Coun-

cil to enable him to carry out the project with the services of two research assistants.

Dr. D.W.E. Blatt, of the Department of Mathematics, has been awarded \$3,500 by the Electrical Research Board for a project connected with switchyard protection.

Dr. A.H.B. Gillies, of the Faculty of Medicine, has received a grant of \$3,000 from the Australian Kidney Foundation for a research project entitled Physiological Role of the Intrarenal Renin Angiotensin System.

Registered for posting as Category B publication

Letters to Editor

The letters of Robert Mackie and A.W. Sparkes (*University News*, November 13) call for some reply in the cause of honest discussion of issues of importance to the future of the University.

Mr. Sparkes uses an interesting vocabulary of vituperation designed to incite the "rightless Helots" but reveals an appalling assessment of both the intelligence of his academic colleagues and their capacity through the exercise of reason and goodwill to influence the course of events in the University.

Reference is made by Mr. Sparkes to "The Short Report" on finance and "The Short Memorandum", which are labelled as barbarous, whatever in the context that might mean. The first of these documents (Review of University Finances - Academic Activities) was the work of a committee of senior academics who were concerned to present their agreed views about the nature of the University, to provide the maximum amount of information about the state of the University, and to offer a series of recommendations relevant to their charter and consistent at once with the aims of the University and the resources available to it. Of course the committee could have ignored the constraints on resources and argued, as so many critics have, that we should press on in confidence that requests for additional funds would be successful. The price of failure in that gamble would be increased chaos and the incapacity of the University to make adjustments without serious disruption of its functions. For these reasons the document emphasises the problems of the management of the resources that predictably will be available in the next few years while assuming that efforts will be made to attract additional support.

In another respect the report offends because it suggests that professors have a distinctive role in the University and that to restore or maintain that role might require changes to some existing administrative structures, bringing them into line with the practices of the majority of universities that share our traditions. In a previous letter (August 7) even Mr. Sparkes seems to offer support for the filling of the Chairs of History and Geology, but under current University legislation it is difficult to discern the nature of the case that should be made for any professorial appointment, especially in departments with several Associate Professors. If I and my colleagues are wrong in our judgements concerning the significance of the professoriate, we are at least in good company and share an error still in evidence in the vast majority of universities in Australia and the United King-

dom. It might be noted that the fanciful picture of our views offered by Mr. Sparkes may indeed be barbarous but it is essentially the product of his own imagining.

The second document ("The Short Memorandum") to which reference is made was an attempt to clarify matters raised in Senate discussion of the report on September 17. The Minutes of Senate (p.1824) record discussion under the heading "Adjustment of Academic Staff Establishment", during which questions relating to tenure, incompetence, redundancy, retrenchment and demotion were raised, not by the review committee but by various members of Senate. It was moved "that Senate request the Council to explore the possibility of staff redundancies as one solution to the financial difficulties facing the University". It was obvious that there was much confusion about the various terms being used in the debate and in the implications of the move being considered by Senate. In that context I offered to submit a paper, the now notorious S.63:80, to assist Senate towards an understanding of what was being discussed. The paper was essentially factual although it did offer by way of illustration some sketch of procedures that might be found appropriate if certain general policies were adopted: it included no recommendations. In the paper the difficulties inherent in any attempt to modify existing conditions of employment were highlighted. The nature and status of the document was indicated when at its subsequent meeting Senate resolved "that the report (S.63:80) be noted and Professor Short thanked for providing the information requested by the Senate".

In his earlier letter (August 7) Mr. Sparkes attacked me for "airily dismissing" the notion of academic freedom in Bulletin No.5 and stated his conviction that academic freedom is a complicated notion requiring careful investigation. In the context, what I queried was the linking of universal tenure with "academic freedom" where the latter was undefined and unexamined. If to question such a usage of an admittedly complex notion is to warrant accusations of sneering, barbarism and vandalism, I must admit to having no understanding of the place of free inquiry in the University or of the responsibility we share for the clarification of concepts that are significant in the definition and defence of the conditions required for the health of the institution. But then it may be that such questioning is reserved for the private musings of some sections of the academic community.

On a minor point, I am also accused of proposing the abolition of Faculty Boards.

If indeed such action had been proposed for consideration, surely it could be examined critically rather than thrust aside on a wave of emotional nonsense. However, the Bulletin referred to contains no such proposal.

L.N. SHORT.

One of the ideas put forward to combat the cuts in expenditure in this University is that Centres of Excellence (so-called) should be established, presumably in an effort to keep a few pet orchids blooming while the other poor perennials of our research community wither and fade. The concept of Centres of Excellence is a pernicious ploy which divides rather than multiplies the research resource of an institution.

The United Kingdom Association of University Teachers has stated that "... plans for concentrating research or teaching into a small number of 'centres of excellence' have never in the past significantly increased excellence. Instead the variety of teaching and research conducted has been reduced. This in turn leads to narrowness, overspecialisation and inflexibility - just the least useful qualities required by graduates for the economy and for research in Britain today". (Phys. Bulletin, 31, 228, 1980).

I have no objection to the establishment of an enhanced support for carefully selected research groups which are by their nature unique or where it can be clearly shown that such support brings clear benefits to the nation, the region or the institution. But not as Centres of Excellence, which by their very nature are exclusive and self-perpetuating at the expense of other, often more deserving, research groups.

Finally, the concept is little short of an insult to many Newcastle academics who are known and respected around the world. The very name carries the unmistakable connotation that those who are not members of a Centre of Excellence are therefore second-rate, being regarded by their own institution as obviously less than excellent.

I trust that Senate will think again on this matter before its meeting on December 3.

COLIN S.L. KEAY,
Department of Physics.

Postscript:

Since writing this letter I have been made aware of a memorandum from the Vice-Chancellor to members of Senate on this matter. It seems that the concept and title "Centres of Excellence" originated at Government level. This does not render the scheme any less obnoxious. My objections gain rather than lose weight (because this University will certainly suffer from such an elitist approach) and the quotation in the second paragraph of my letter takes on added significance.

New Council member

Mr. John Risby, General Manager of Newcastle Steel Works, was elected as a member to the Council in October. He has filled a vacancy among the members elected by members of the Council themselves.

Born at Maitland and educated at Maitland Boys' High School and Newcastle Technical College, Mr. Risby began with BHP as a technical trainee at Newcastle Steelworks in 1941. He qualified with a Diploma in Metallurgy.

Mr. Risby became Assistant Superintendent Steelmaking at Newcastle in 1962 and in 1964 was transferred to Whyalla works, where he was BOS Superintendent. His later Whyalla appointments were: Manager Steelmaking Operations 1967-69; Manager Iron and Steelmaking Operations 1969-71; Assistant General Manager 1971-75; General Manager 1975 - early 1980.

Mr. Risby is a member of the Australian Institute of Metals, The Australasian Institute of Mining and Metallurgy and the British Iron and Steel Institute. While in Whyalla, he served on several councils concerned with safety and civic affairs.

Mr. Risby, who lives present



ly at New Lambton, is married and has three sons.

A former first grade Rugby Union player with the Wanderers Club in Newcastle, as well as a first grade cricketer of note with Hamilton, Waratah-Mayfield, Merewether and Newcastle City, representing Newcastle in both sports, he currently plays golf and tennis.

Career experience

Job Experience visits to the University ended recently for secondary school pupils from Waratah High School. Peter Moutoudis, from the school's Year 10, chose to come to the Publicity Office to learn about writing and Journalism. After helping to design a layout for University News, he wrote about his visit to the University in the following terms:

Towards the completion of Year 10, school begins to seem like a massive shell, full of determined students waiting for the opportunity to "hatch out" into the business world. It is now possible for the students to acquire some knowledge of the occupations they choose - through a system introduced by the Department of Education called Job Experience.

By experiencing their chosen careers the students are usually able to decide whether or not they will fulfill their expectations.

Recently, 15 students from Waratah High School (Newcastle Boys' High until it was converted to a co-educational school in 1977) performed job experience at the University of Newcastle. They studied subjects ranging from carpentry to



Peter Moutoudis

science. Every student was thoroughly impressed with the activities the University had to offer. Moreover, the students commented on the friendliness and co-operation constantly offered by members of the University's staff. Sometimes this co-operation involved some small sacrifices by the staff, who did not display any resentment.

After just one week at the University, the students' knowledge of the careers which they had selected was vastly increased. Job experience at the University was greatly appreciated - the valuable knowledge learnt will never be forgotten. It is an important asset for the future.

PETER MOUTOUDIS, Year 10, Waratah High.

Holiday Services

The University will close for the Christmas to New Year holiday recess, i.e. from December 25 to January 1.

UNIVERSITY NEWS

With this edition, *University News* goes into recess and will not reappear until, February 1981, as No. 1 Issue of the New Year, 1981.

AUCHMUTY LIBRARY

During the long vacation ending on March 2 (the first day of First Term), the Library will open from 8.30 am until 5 pm on Mondays, Wednesdays and Fridays and from 8.30 am to 7 pm on Tuesdays and Thursdays. It is closed at week-ends.

STAFF HOUSE

The Staff House is scheduled to close from December 24 to February 2, 1981.

THE UNION

During the long vacation the Union building will be open from 9 am to 7 pm during the week. Departments of the Union will comply with this opening schedule:

shops, 9 am to 5.30 pm, Monday to Friday;

bank agency, 9 am to 4.30 pm, Monday to Friday;

lounge bar, Noon to 6.30 pm, Monday to Friday;

cafeteria, 10 am to 5.30 pm, Monday to Friday;

fast food service, Noon to 2 pm; 4.30 pm to 4.30 pm.

SPORTS PAVILION - AUCHMUTY SPORTS CENTRE

These facilities will close from December 24 and re-open on January 5.

CREDIT UNION

The Staff Credit Union will be open on December 23 (between 10.30 am and 2.30 pm). The Credit Union will close from then until January 6.

Postponement

The November petrol strike meant that the Government Regulation of Industry Conference, organised by the Institute of Industrial Economics, had to be postponed until February 19 and 20, 1981. Details of the conference may be obtained from Dr. Colin Aislabie, Acting Director, Institute of Industrial Economics, C/- the Department of Economics.

PROF. TWEEDIE RETIRES

Professor Alan Tweedie came to Newcastle just prior to the Maitland flood of February 1955 and is retiring during a prolonged drought in the Valley. With funding for the University tight, this could be regarded as an omen, but he is confident that the University will continue to develop.

"The George Orwellian fixation on 1984 is likely to prove real", he says. "But if everybody thinks about the University first and not only their departments, satisfactory answers to the financial difficulties we face should be available by then".

Having been on the staffs of the Newcastle University College and the University, a long-serving Professor, the first Deputy Chairman of Senate, a Vice-Principal and a Deputy Vice-Chancellor, an Acting Vice-Chancellor and Chairman of one of the Working Groups which reviewed the University's finances, we can take cognizance of his views.

Professor Tweedie has spent 31 years in University life. He moved from New Zealand to Australia in 1952 and will bow out on December 31 this year, aged 62. In between he was a Lecturer at the University of Queensland, a Senior Lecturer and Associate Professor at the University College, Foundation Professor of Geography and the University's Vice-Principal.

His academic career was a product of the Geography "boom" that followed the Second World War. "The war stimulated a great deal of interest in places, because it was the first truly global war. I specialised in Geography at the University of Otago as its first honours student and, subsequently, saw the subject get started in several universities".

He resigned from Queensland University to become one of the "Auchmuty Arts Team" at Tighes Hill, where, a year beforehand, James Auchmuty had established the School of Humanities. The team consisted of 10 Senior Lecturers-in-Charge, each Head of a small department.

One member of Alan Tweedie's first class was Peter Irwin, then a high school teacher and now an Associate Professor in the Department of Geography. Soon after, the Geography establishment expanded with the addition of Murray Wilson (now Professor of Geography, University of Wollongong), Ken Robinson (now Professor and Head of Department) and Bill Geyl (Associate Professor until he retired a couple of years ago). Arthur Brownlea, the college's first honours graduate in Geography, is now a Professor at Griffith University.



Professor Tweedie

"The growing interest in Geography and the very buoyant demand for teachers", Professor Tweedie says, "meant an expanding student enrolment and, in particular after autonomy, an expansion of staff. The student peak came in 1977, when the Department enrolled 350 first year students. Since then, there has been a decline in enrolments reflecting both the change in fashion and the decrease in teacher employment".

"The Maitland flood gave me a great opportunity to expand my studies in climatology. As I was interested in fresh water, I found that the Hunter Valley was an ideal laboratory".

He spent several years doing research into the whole spectrum of fresh water - from rainfall, through soil moisture, irrigation agriculture and farm economics, to water law and society in general. He went to the United States on study leave in 1961, 1968 and 1972 and at least two books, *Water and the World*, and *Regions of Australia*, resulted from his research.

Professor Tweedie says that when in 1973 he was asked to move to the Administration as Vice-Principal it was intended that he serve in that office until a new Vice-Chancellor was appointed. "I was 55 and, having been a professor for a while, the change was an interesting challenge".

He maintains that there should be a continuous movement of staff between academic departments and the administration "if the credibility of the administration is to be sustained". The only purpose of a central administration, he says, is to keep the University's important work - the academic work - going. This is why he favours a policy of fixed term senior University appointments. It was for this reason he initiated the tradition of the Deputy Chairman of Senate serving only one term in that office.

The News invited Professor Tweedie to comment on the present "squeeze" on University funding.

"I am sure the University will find a rational solution to the problem of resource allocation in a contracting financial environment, and I am also sure that the 'efficiency' of a university cannot be measured in terms of general business principles".

"There are some who think that the University should be run by trained business managers, after all we are a \$20 million a year operation and that's a lot to leave in the hands of 'amateurs'.

"This seems to be the view of some politicians, who demand greater 'efficiency'. However, I'm old-fashioned enough to believe that the effective University administration is once rejuvenated by a regular input from the academic scene. Any other form of administration will not be a university as I understand it".

Alan Tweedie believes he has been singularly fortunate in his choice of career. "It has been exciting to have watched the development of students", he said, "and I am most grateful to them for the manner they enriched my life".

His retirement agenda includes reading History again, going back to Edinburgh to see Mrs. Tweedie's mother and continuing to sail on Lake Macquarie. Moreover, he plans to be a "recycled" student and to learn Italian, so that he will be able to talk with his grandson. His son and daughter-in-law live in Italy.

English problem

The Department of Community Programmes is to offer a Bridging Course in English Usage in the two weeks immediately before University starts next year.

The Director of the Department of Community Programmes (Dr. B. Smith) explained that every year a great many students who were otherwise quite competent experienced difficulty with their assignment work at University and were in danger of failing because they lacked the basic skills and understanding of English usage which were essential in practically all university studies. It was possible to achieve the level of basic competence expected by the University in about 20 hours of properly designed, concentrated study and, thereby, avoid subsequent problems.

The course, from February 16 to 27, will be taught by Ms Bethia Penglase, a graduate in History and English, an experienced journalist and a specialist in remedial English teaching. The fee is \$10.

Professor and laboratory arrive

Professor Ronald MacDonald has taken up his Chair as Professor of Physics at the University. He had spent most of his early life in the Maitland area and completed a Bachelor of Science degree course at Newcastle University College in 1961. He worked at the Australian National University for 15 years before taking up his appointment.

Professor MacDonald has brought from ANU equipment which he collected and assembled over a number of years to form one of the best experimental laboratories for the study of ion-surface interaction in the world.

His work is concerned with the physical processes which take place when an energetic atomic particle interacts with a solid surface. The information obtained from such work is of importance in several aspects of today's energy problems - in materials science and in the study of surfaces and surface reactions such as adsorption, corrosion and epitaxy.

The equipment to be transferred from ANU consists of:

- A large, heavy ion accelerator, which can produce beams of ions accelerated through potential differences of up to 100,000V. The accelerator has an analysing magnet which allows analysed beams of ions to be switched into either of two beam lines. The accelerator is complete with equipment for the study of charged and excited particle emission due to ion bombardment.

- A low energy system used for studies of low energy ion scattering. This system is used in basic studies of the collisional mechanisms involved, and for experiments involving analysis of surfaces where the contamination level is less than one monolayer.

- A multistation system which uses an analyser mounted on a goniometer for studies of a wide variety of problems in the basic physics and in surface analyses. This system is unique in the world today.

The total value of the laboratory as a functioning entity is close to \$500,000. The value of the equipment alone, calculated on the basis of cost when ordered, is well in excess of \$300,000.

A large proportion of this cost came from ARGC grants to Professor MacDonald over a period of about eight years. Using this and a generous discounting-for-age equation allows the equipment to come to Newcastle for a small fraction of its cost.

In Newcastle Professor MacDonald would like to increase substantially his interaction with industry. He says that the various methods of analyses and applications to materials science have been well proven in the laboratory environment, but would benefit from exposure to more realistic problems. In this way both the researcher



Photo: Frank Zabram

Professor MacDonald

and industry could come to understand more about the processes involved in materials in use today.

"Corrosion alone is a billion-dollar problem and any further understanding of corrosion or ways of inhibiting corrosion must save millions of dollars annually.

"Collaboration with industry and with other research groups will be actively sought, particularly for the insight such interaction can give to the student, removing him from the often well defined experimental situations of the physics laboratory to the usually poorly defined situation giving rise to a practical problem", Professor MacDonald added.

Child Care Centre Elections

The constitution of the Board of Trustees of the Community Child Care Centre provides that one Trustee shall be a member of the staff of the University appointed by the Council on the nomination of such staff. The term of office of the present member will expire on February 28, 1981.

A meeting will be held in Room ALG29 (McMullin Building, lower ground floor) on Wednesday, December 10, at 1 pm for the purpose of nominating a member of staff for appointment for a period of two years commencing March 1, 1981.

Nominations will be taken and, if necessary, a secret ballot conducted at the meeting.

HAPPY CHRISTMAS

TO
ALL



From: University News Staff



Photo by Col News

Professor Felix Rademacher, from the University of Twente, The Netherlands - one of the Course Lecturers who contributed to the three-day seminar on Bulk Materials Handling, conducted by TUNRA Bulk Solids Handling Research Associates at the Faculty of Engineering this week.

U.S.A. Lecture Tour

Professor Ron Laura, Dean of the Faculty of Education, has been invited to present his research on the Philosophical Foundations of Environmental Education to colleagues in the United States of America.

Professor Laura will depart from Australia in mid-December and return early in February.

The lecture tour is being sponsored jointly by the American Association of Brokers and the United States Government (as part of its Energy conservation Programme). During the tour Professor Laura will visit some 12 major American universities, including Harvard University and the Massachusetts Institute of Technology. He will be meeting to discuss his views with academics working in the area of environmental education, with representatives of energy investment agencies, and various conservationist groups.

Professor Laura explained that he first became interested in environmental education in 1975, when, as Visiting Professor at the M.I.T., he collaborated with Professor Thomas Nutt-Powell of the Institute's School of Urban and Town Planning to produce a controversial publication on the environment-

al implications of policy decisions in connection with town planning.

He said he had continued his work in the field by assimilating environmental education issues into his present research on the introduction of philosophical thinking into the school syllabus.

"In the light of such factors as uncontrolled population growth, diminishing natural resources and the environmentally debilitating effects of industrial technology, I have been concerned to show that philosophy can be used to enhance the role that schools can play in educating persons for responsible interaction with their environment.

"By heightening the environmental consciousness of children and making explicit the assumptions which underpin this consciousness, I believe that we put ourselves in a better position to understand and to effect the difficult environmental decisions which confront contemporary society". Professor Laura said that while the long-term management of environmental resources had led to an examination of the social, political and geographical factors involved in the science of the environment, he believed that far too little attention has



Professor Laura

been paid to the way in which a philosophy of the environment might be incorporated in the school curriculum.

Believing that insufficient consideration has been given to the philosophical basis for a programme of environmental education, his recent work in this area has been devoted to showing the extent to which philosophy could profitably be employed to advance the quality of environmental education in schools.

View on Smelters

"If the new smelters proposed for the region have modern emission control equipment and a strictly policed monitoring programme is used, I think we have nothing to fear from fluoride emissions", the Head of the University's Department of Chemical Engineering, Professor Graeme Jameson, said.

Professor Jameson was commenting to *University News* after he returned from the United States, where he inspected aluminium smelters. He was included in a party of 10 Hunter Valley residents which made the visit to the United States to try to assess the effects the smelters had had on the environment and the local communities. The tour was arranged by the Hunter Development Board.

"I found the whole exercise very reassuring. Of course, we spent some time looking at the smelters themselves, which ranged from the very new to one which started in 1965. But the greater part of our time was spent talking to people outside the plants - farmers, local councils, residents groups, union officials, as well as to authorities on fluoride effects on plants and animals, who we had asked to see before leaving Newcastle".



Professor Graeme Jameson

Professor Jameson said the Hunter Valley residents saw beef cattle grazing within a few hundred yards of the smelter buildings on one site. Two of the smelters were ringed with dairy farms outside the buffer zone, i.e. one to two km from the plant and beyond. At the oldest smelter, fluoride emissions had significantly affected nearby dairy herds in the early days of operation, but since dry scrubbers had been installed in 1972, there had been no problems.

"The Hunter Valley vignettes are concerned about the possibility of fluoride from the new smelters damaging their industry", Professor Jameson pointed out.

"Fluoride could certainly affect the leaves of grape vines if present in sufficient quantities in the air. But with properly-controlled smelters, the fluoride concentrations are so low that their effects cannot be detected at distances greater than three or four km from the plant. I don't think any smelters have been proposed which would be that close to Hunter Valley vineyards".

Professor Jameson said that at each site they visited the smelter had initially been welcomed with open arms by local bodies and they had all lived to expectations in terms of the increased prosperity they had brought. "The overall reaction from all sides of the community was very favourable", he said.

"We were impressed with the care taken to monitor the fluoride emissions and their effects on vegetation and cattle. The monitoring outside the plant is done by independent consultants reporting simultaneously to government, the farmers, and the company, at company cost. This information is also available on request to the public".

A Report of all the Working Party's discussions and findings has been prepared and copies can be obtained from the Hunter Development Board. Several copies have been placed in the University Library.

Course Growth

The graduate Diploma in Coal Geology course, offered jointly by the University and the University of Wollongong, commenced in July, 1979, with an enrolment of nine, which has now increased to more than 20. The next teaching session will be held at this University in January.

The Joint Advisory Committee for the Diploma met recently in the Council Room. It was the second meeting of the Committee and the first hosted by the University of Newcastle.

Membership of the Committee comprises a distinguished group of representatives from industry, government and semi-government bodies, who have joined with the staff of the two Universities to guide the development of the Diploma during its formative years.

The Committee is chaired by Mr. E.A. Wright, who is the

Manager of the Coal Division of B.P. Australia.

Other industrial representatives include Mr. I.D. Blayden (Senior Geologist B.P. Aust.), Mr. M. Lye (Manager, Coal and Synthetic Fuels Department of ESSO Australia), Mr. R.E. Lees (Newcastle Wallsend Coal Co.), Dr. J.H. Rattigan (Exploration Manager, C.S.R. Ltd.), Mr. B.W. Vitnell (Chief Geologist, Coal Allied Operations) and Mr. R.G. Wilson (Superintendent Geologist A.I.S. Pty. Ltd.).

Government and semi-government organisational representatives are Mr. J. Cramsie (Chief Coal Geologist, N.S.W. Department of Mineral Resources), Professor L.H.J. Harrington (seconded to B.M.R., Canberra), Mr. K. D. Lyall (Assistant Secretary, Coal Branch, Department of National Development and Energy), Mr. O.J. Shields (District Geologist, Joint Coal Board, Wollongong) and Professor G.H. Taylor (Director, Centre for

Resource and Environmental Studies, A.N.U., Canberra).

The two universities are represented by Professor A.C. Cook and Dr. B.J. Jones (Wollongong) and Associate Professor B. A. Engel and Associate Professor C.F.K. Diessel (Newcastle).

Membership of the Committee was established by invitation issued jointly by the Universities to a number of industrial and governmental organisations. Professor Engel said that their response was most gratifying. "We now have a high-level committee which is charged with the responsibility of providing the respective Heads of Departments with advice on such matters as course structure and content, admission requirements, assessment methods and a variety of other appropriate issues. Already the two meetings have made significant contributions and we are indeed fortunate that such close collaboration is possible with the industry".

Women's report

"Women own less than one percent of the property in the world and receive one tenth of the world's income", according to Kathleen Taperall, of the Office of Women's Affairs.

Kathleen was speaking at a meeting at the Working Women's Centre at Mayfield. Dr. Vera de R. O'Byrne, of the Department of Education, attended the meeting at the invitation of the Vice-Chancellor.

Reporting on the meeting, Dr. O'Byrne said Kathleen Taperall spoke about the conference in Copenhagen that had attempted to raise the status of women. The 30 articles agreed to at the conference set out in legal form the steps that needed to be taken.

"One of the most distressing statistics", Kathleen said, "is that literacy rates for women have actually fallen throughout the world, whereas literacy rates for men have risen.

"Everywhere (even where women are reasonably well educated and have open access to most occupations in theory) they are grouped in a narrow range of occupations.

"Six countries have so far ratified the 30 articles. Australia has signed, but not ratified. Almost 80 countries altogether have signed".

Jan Marsh, an Advocate for the ACTU, agreed that equality in employment did not exist. Initiatives and special measures were required to bring this about. The stereotyped roles which had been imposed on women must be changed, she said.

"Women lose out on education first. The principle of equal pay for work of equal value is not being implemented. There is also discrimination in superannuation, both in conditions in which women can join and in benefits".

Ms Marsh said there was a great deal of sexual harassment of women in the workplace. Women were very vulnerable to this in an era of unemployment.

Those eligible to apply are: Australian citizens who are graduates; Graduates from overseas who have permanent resident status and are currently resident in Australia.

The stipend for the Scholarships will be a minimum of \$4,620 plus allowances for dependents, incidentals, submission of thesis and establishment costs where applicable, at the rate set from time to time for the Commonwealth Postgraduate Research Awards. An additional allowance of \$500 per annum for maintenance is also provided together with economy class air fare, where necessary, to take up the Scholarship.

Application forms are available from the Student Administration Office.

Closing date: DECEMBER 31.

NH&MRC Scholarship

The purpose of the Scholarships is to encourage SCIENCE graduates of outstanding ability to gain full-time medical research experience. All candidates must enrol for a higher degree. Scholarships will be held within Australia.

The Scholarships are awarded initially for one year but, subject to suitable progress reports being received, may be renewed for a further one or two years. Normally, the maximum period of award will be for three years and applications for renewals are required each year.

Constitutional change

The 1988 Bicentenary Year is an ideal target date for a major national exercise in Constitutional renewal.

This is the view of Senator Gareth Evans, ALP Senator for Victoria, who spoke at the University at the invitation of the Eleventh of November Committee on November 17. He spoke on Constitutional Reform: Where, When and How?

Instead of marking the occasion with an orgy of self-congratulation, Senator Evans said, we should be asking ourselves just what our 200 years of white settlement had achieved in terms of a stable, effective and genuinely democratic system of national government, and doing something positive to rewrite the rules to guarantee this in the future.

"The present Constitution took the founding fathers 10 years to write", he said. "I believe that it is not too tall an order to reconstruct it over the next eight years.

"But something must first be done to capture and focus the imagination and involvement of the Australian people in the process."

One stimulus would come from the situation in the Senate after next July, which carried with it all the potential for a re-enactment of the Constitutional traumas of 1975. Malcolm Fraser could hardly complain if the nightmare he then created now came back to haunt him.

But a real advance will only be made if politicians from all Parties bury some of their ideological hatchets and work together to build a broad community consensus for change.

Globe Theatre

Professor David Frost has made and presented to the Department of English a model of Shakespeare's first Globe Theatre (1598). The theatre burned down in 1613, during a performance of Henry VIII, when wadding from a cannon fired on stage set the roof thatch alight.

The model is a replica of the one in the Folger Shakespeare Library in Washington - a reconstruction designed by Professor J.C. Adams to illustrate his book *The Globe Playhouse* (1942). The reconstruction represents one of three major and differing attempts in this century to recreate details of the stage for which Shakespeare wrote.

The 'wooden O' breaks into two halves for demonstration purposes to reveal the central yard and stage, which in this re-creation has the much-disputed curtained recess - the 'inner stage'. The Globe flag may be raised and lowered to indicate when a performance is in progress, and two characters made to scale by Miss Juliet Frost enable problems of sight-lines and stage groupings to be demonstrated.

Professor Frost told the *University News* that, unhappily, we know more about the seating arrangements of theatres in Shakespeare's day than we do



Photo: Frank Zabrana

Professor Frost and the model of the Globe Theatre.

about the precise details of the stage area. However, he believes the model will be useful in lectures and seminars for illustrating the merits and limitations of one particular reconstruction, and for giving students some concept of the very different theatrical circumst-

ances for which seventeenth century plays were written. Moreover, he says it is as important to know the conventions of Shakespeare's stage if we are fully to understand his works as it is to know the musical resources that composers such as Bach or Handel had at their disposal.

HIGHER DEGREE REPORT

Mr. W.G. Warren, Lecturer in Education, completed studies for the degree of Master of Psychology (Clinical). He investigated death attitudes and cognitions and has kindly given the News this exposition of his methods and findings.

This work had two general focusses. The first was an interest in the generalisability of a United States developed technique for assessing death threat. The second was an examination of the effect of occupational or experimental closeness to death or risk of death, on a variety of attitudes and ideas about death.

The technique for assessing death threat provides what the United States workers call the Death Threat Index, a measure based on the Personal Construct Psychology of George Kelly (1955). Kelly's theory of personality is concerned primarily with individual meaning-giving; in the present case the meaning (or, more usually, meanings) given to death. The problems of pencil-and-paper 'tests' of death orientations and of indirect measuring of physiological reactions to death words or stressful situations are both overcome in this approach which was a very promising approach in this field of research. However,



Photo: Frank Zabrana

the specific technique proved unsatisfactory in the Australian context and only poor levels of reliability and validity were recorded. Some problems with the technique were noted and suggestions made for refinement of the procedure. These suggestions have since been taken up (Warren and Parry, 1980).

Four other scales focussing respectively death fear, anxiety, concern, and acceptance were also used and all except the fear scale were shown to have satisfactory reliability and validity in the Australian

context. In addition, results similar to those recorded in the United States context were noted in respect of these scales.

Three groups were chosen for the second focus of the study: Group One was involved with death and dying and comprised funeral directors, mortuary attendants, nurses in terminal and geriatric units; Group Two was engaged in what on intuitive grounds are dangerous activities of high death risk and was comprised of sport-parachutists and hanggliders; Group Three was a control group relatively uninvolved with death and dying - i.e. people of no more death contact than a past but not recent bereavement.

There were no statistically significant differences on any scale across the three groups, though differences towards less fear, anxiety, concern, and threat, and greater acceptance from Group One to Two to Three were noted in respect of threat, concern, fear and acceptance. Some questions of the 'coarseness' of present measuring instruments were raised and the clinical, as distinct from research, value of the Death Threat procedure noted.

Photographer to Retire

For readers of the *News* Frank Zabrana will be a familiar person. After he retires on February 4 we will miss seeing his name under our photographs.

Frank has spent more than half his working life at the University, watching the place grow and photographing research work and campus personalities.

After studying Journalism and Photography at the University of Prague, he left Czechoslovakia in 1948 with the intention of seeing the world. He travelled extensively throughout Europe, living for periods in Germany, Luxemburg, Belgium and Holland and studying at the University College of Stuttgart and the University of Amsterdam.

Frank then moved to Brazil. He worked in Rio de Janeiro and Sao Paulo before coming to Australia in 1951. Whilst he was working for a Sydney photographic firm, he saw an advertisement for the position of Laboratory Assistant at Newcastle University College at Tighes Hill. He successfully applied and his long association with the Department of Metallurgy began in 1956.

"In those days photographic facilities were very primitive and so that I could cope with the variety of tasks which devolved upon me I supplied my own equipment".

Deservedly, Frank is proud of the laboratory that he has developed over the years. It incorporates a dark room and a studio and he is able to undertake virtually any photographic assignment. Professor Eric Hall, Professor Allan Oates and Mr. John Grahame always had encouraged him, he said.

When Frank Zabrana started work at the College he had many



Frank Zabrana - photograph taken by time exposure.

different duties. "My very first job was to type Lecturer-in-Charge Mr. Col Cooke's thesis

for his Masters Degree". However, after a few years he was re-classified as a Photographer. He says that though he has taken more photographs than he can remember he estimates that he has produced the illustrations for 60 theses, research papers and other publications. He worked for people from almost every department of the University.

Frank is married to Marion and their daughter Jane is a first year medical student at the University of New South Wales. After he retires he plans to make photographic tours of the Hunter Valley. "This time I'll be taking my own pictures. I want to produce my impressions of the Valley, using old wharves and relics".

equally passionate for the more modern language, fuller theological insights and more 'apostolic' structure of the new services.

The book was the subject of a special exhibition at the Design Centre, London, on publication day (November 10) and although the first print order of the various editions was for half a million copies by publication day some publishers were already seeking permission to reprint.

Professor Frost has been a member since 1969 of the 14-person Commission that produced the 1,300-page book. In addition to preparing the English version of the Psalms included in it he was responsible for the wording of a substantial part of the new services.

Professor Frost will deposit in the Auchmuty Library a calf-skin presentation edition of the new book, together with the Commission's official *Commentary* and a popular illustrated guide, *Anglican Worship Today* (Collins), to which he has also contributed.

A.R.G.C. Support

Dr. P.A. McGovern, of the Department of Physics, was supported by the Australian Research Grants Committee with a grant of \$7,082 to assist his investigations into Electromagnetic Compatibility (EMC). In the following article, Dr. McGovern explains his special interest in TEM-cells as a means of improving our understanding of EMC.

The electromagnetic spectrum may be compared to an isolated beach. One user can enjoy it with total freedom but with heavier use interference is bound to occur. In recent years there has not only been a vast increase in usage of the EM spectrum, both intentional such as TV and radio broadcasting and unintentional such as interference generated by electrical equipment, but also recently a vast proliferation of electronic devices very susceptible to interference from external sources, micro-computer chips being only the best known example.

For smooth functioning, technological society needs to ensure that it does not pollute the EM spectrum unnecessarily and that the gadgets on which it depends function adequately in the unavoidable presence of EM interference. The technical discipline working towards this end has become known as Electromagnetic Compatibility (EMC) and it now covers far more than the traditional concerns over interference to radio communication or banning mobile transmitters near blasting operations. Reasonable and successful regulation to ensure a blissful state of EMC in society requires an under-pinning of reliable measurement techniques.

Since EMC problems may occur over the whole EM spectrum measurement and calibration facilities must operate over a very wide bandwidth. Anechoic chambers are used in the microwave region but are too large and expensive at lower frequencies. The United States National Bureau of Standards is now using TEM-cells to cover the range from low frequencies upwards. A TEM-cell is merely a transmission line of large dimensions in which the test objects are placed, and which is tapered at the ends to connect to laboratory equipment connectors of normal size. None are known to be in captivity in Australia.

EM field behaviour in TEM-cells becomes very complex at higher frequencies and the method of this project is to use fast time-domain measurement techniques to improve understanding of how the EM fields are actually established inside the cell. This knowledge will be used as a guide to improve TEM-cell designs which will allow easier and more reliable disentangling of test device behaviour from further complications caused by the TEM-cell itself.

Abbey service

Professor David Frost, Head of the English Department and Chairman of the Religious Studies Committee of the Faculty of Arts, was a guest at a service in Westminster Abbey on November 12 when the Queen inaugurated the Third General Synod of the Church of England before a congregation of 3,000 figures of Church and State, including representatives of other churches. The Communion rite was from the new *Alternative Service Book* and later Professor Frost attended the presentation of a special edition of the new book to Her Majesty at Church House.

Billed by the three consortia of printing houses as 'the greatest publishing event in the Church of England for 300 years', the new book has stirred bitter controversy in the English press and on television and radio - between those who fear the position of the 1662 *Book of Common Prayer* and those who are

To enjoy beautiful things

"After I retire, I shall try hard to enjoy all the beautiful things in life. My plans, therefore, include being with my wife and family, reading, listening to good music and seeing more of the natural beauty of Newcastle's environment", said Professor Tony Herzog, Associate Professor in Civil Engineering.

Professor Herzog will retire on March 2 after having spent 29 years in the Department of Civil Engineering at the University's Tighes Hill and Shortland campuses.

"I have been very fortunate in Newcastle. I have had the opportunity to live a full life both in the University and the community", he said. "One of the great joys of practising at the University in the early days was the close knit community for students and staff. Today the old University is almost unrecognisable and it is regrettable that growth meant that much of the fraternisation and co-operation had to disappear".

Born in Hungary in 1918, Tony Herzog graduated from the Technical University of Budapest as a Chemical Engineer. He emigrated to Austria in 1946 and, with his wife, Herta, to Australia in 1949. When they arrived in Australia they were given accommodation in a migrant hostel at Nelson Bay.

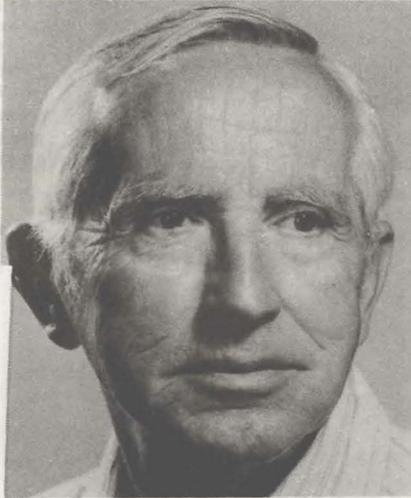
Initially, Tony had to work as a manual labourer. However, whilst at the Steelworks he was told that Newcastle Technical College had a vacancy for a Technical Officer in Civil Engineering. He applied for the job, was successful and started at the Tech. in August, 1951. Newcastle University College of

the New South Wales University of Technology opened at Tighes Hill four months later and Tony was one of a score of members of staff who transferred from the Tech. to the College.

"The College's Civil Engineering Department enrolled its first full-time degree student in 1951. This was Mr. Doug Chapman, now a Senior Engineer with Newcastle City Council. We had a 100 per cent increase in our full-time student numbers the following year, when we gained one more student".

He became a Lecturer, then a Senior Lecturer and, in 1965, an Associate Professor after having completed a Ph.D. with the University of New South Wales.

As the University developed, Tony did much to strengthen relationships between students and staff and between staff and colleagues. He is a honorary Life member of the Engineering Fraternity and was Sub-Dean to the first four Deans of the



Professor Herzog

Photo: Frank Zabramna

Dinner

A testimonial dinner will be held by the Department of Civil Engineering and Surveying to honour Professor Tony Herzog and his wife Herta. The dinner will be held at Tattersall's Club, Watt Street, Newcastle, on the night of February 27, 1981. Friends of Tony and Herta, Tony's colleagues, graduates of the Department, members of the Civil Engineering profession and others who wish to attend should telephone the Secretary to the Department on Extension 526.

Faculty of Engineering. Among the other campus positions he has held are President of the Staff Association, President of the Staff House and Director of Open Day.

He has been Chairman of the Newcastle Division of the Institution of Engineers of Australia and Chairman of Newcastle Sub-branch of the Australian Water and Waste Water Association, while out at Toronto, where he has lived since 1950, he has held such community positions as President of Toronto Rotary Club and Chairman of the Catholic Parish Council.

Tony and Herta have a son, Tony, who works for Lake Macquarie Municipal Council, and a daughter, Veronica, a B.Com. graduate in this University. They have three grandchildren.

Herta is well-known at the University, having served as President and Secretary of the Faculty Wives' Group (now the University Womens' Group).

Christmas gifts

As this is the last *News* for the year, you have just a brief period in which to buy these Convocation mementos:

- . Christmas cards and postcards, with views of the campus (10 cents each, six for 50 cents).
- . University wall plaques, \$19.95 each.
- . University plates, \$19.95 or \$24.95 (with special number, plus buyer's name).

Please call in at Room LG54, McMullin Building, or telephone Extension 375.

Advertisement

FOR SALE

BICYCLE, Repco, u-frame, 3-speed gears, with carrier, rear and front brakes, almost new condition, \$100 or nearest offer. Please telephone Extension 361 or 43 0309 after hours.

HREA Sub-branch

A Sub-branch of the Health and Research Employees' Association of Australia has been formed at the University to give industrial coverage to non-academic staff in the Faculty of Medicine.

The Sub-branch offers membership to approximately 180 staff in the Medical Sciences Building on campus and the Clinical Sciences buildings at Royal Newcastle and the Mater Misericordiae Hospitals.

The following were elected to positions on the Sub-branch's Committee of Management: *President*, Paul Brent; *Vice-President*, Kathy Snape; *Secretary*, Carol Flack; *Committee Members*, Geoff Davies, Anita Mills, Phil Nix, Joan Odgers, Paul Warren and Peter Woittiez.

SPORT

The University will play the University of Tasmania at No.1 Oval on December 8 and 9 in an Intersarsity fixture. Play will commence at 11 am.

University Cricket Club has organised a Ferry Cruise on the Hunter River on December 9 in conjunction with the University of Tasmania's visit. The ferry will leave Newcastle at 7 pm and return at approximately 11 pm. The cost is \$4 a head, which includes some refreshments. Those interested can contact the Secretary, David Bell, on 51 2370.

University Cricket Club is organising a bus trip to the Sydney Cricket Ground to watch the Australia v. India Test Match on Sunday, January 4. The coach will depart from the Squash Courts at 7 am and return at approximately 10 pm. The cost is \$7 a head. Those interested should contact David Bell.

Andrew Butler, who is having his first season as a member of University Cricket Club, is doing all the right things. Having consistently scored well as an opener for University Firsts, Andrew was selected in the Newcastle Colts Under 23 side to play N.S.W. Colts at No.1 Sports-ground last Sunday.

Geoff Butler, Senior Lecturer in Mechanical Engineering, is Andrew's father. Andrew scored 69 runs for University against Wallsend in the last round of the Newcastle first grade competition.

The outcome of matches played between University and Wallsend in the Newcastle District Cricket competition:

Firsts, University won;
 Seconds, " " ;
 Thirds, " " ;
 Fourth, Wallsend won
 Fifts, Stockton d. Uni.I
 Newcastle City d. Uni.II.

A week-end camp which was proposed in the last issue of *The News* is now being organised. The University's power boat, catamaran, canoes and kyaks will be available. In addition, there will be other recreation and sporting facilities.

We anticipate being able to utilise the University of New South Wales' camp at Smith Lakes. Actual dates have yet to be arranged.

The camp is free, but only 40 applicants can be accepted. (First come - first served.) The activities will include, water skiing, sailing, canoeing, fishing, bush-walking and the like. There will be barbecues and a sheep-raft.

Please contact Jock Armstrong on Extension 469.

The annual University Lawn Bowls Competition will be played at Comsteel Bowling Club on Thursday, December 18, commencing at 12.30 pm. All interested students and staff are cordially invited. Intending participants should contact Jock Armstrong on Extension 469.

The 1980 Combined High Schools v. Vice-Chancellor's XI Cricket fixture was won by C.H.S. by 15 runs. Final scores: C.H.S. 5 for 183 (W. Shafren 65), Vice-Chancellor's XI 9 for 168 (S. Taylor 75). The game was played at No.1 Sports Oval on November 18 in heat-wave conditions. Well done C.H.S.

University Gymnastics Club, which was formed for the benefit of students, staff, members of the community and juniors, has rapidly increased in numbers, is well-known locally and has reached state level for quality of performance. Gymnastics sessions are conducted by highly-qualified coaches at the Auchmuty Sports Centre during term on Tuesdays (beginners), Wednesdays (advanced) and Fridays (advanced), from 4.30 pm to 6.30 pm. (Lambert Ariens, the Australian Men's Champion, frequently works with the advanced group).

During the week-end, November 8 and 9, at Davidson in Sydney, three of the Junior Female members gave extremely credible performances.

On the week-end, November 15 and 16 at Airds Centre (in Sydney) three of the Junior Male members competed in the State Junior Gymnastic Championships and gained second, three third and two fourth places. Best overall performance was Jirrah Ware, who finished third in the Level Three Division.

The 1980 Club activities are now completed - the 1981 programme will commence on Tuesday, February 10, at the Auchmuty Centre. New members will be welcomed. Additional information may be obtained by contacting Jock Armstrong on Extension 469.

The Male and Female teams from University Squash Club are well represented in the final stages of the Newcastle District Competition. Accordingly, an abundance of Winner's Pennants is expected to materialise on campus in the very near future.

ALL Campus Sporting Clubs are requested to ensure that their 1980 annual reports are forwarded to the Amenities Office at earliest possible opportunity.

Wanted - 500 teachers

The Australian Government is attempting to supply 500 Australian secondary teachers to Zimbabwe. According to the Australian High Commissioner in Salisbury, Mr. J.V.R. Hearder, Zimbabwe also requires teacher trainers for primary and secondary levels.

The High Commissioner and the Australian Development Assistance Bureau wrote to the Vice-Chancellor, Professor D. George, to determine whether any teachers or teacher trainers might be interested in applying for positions in Zimbabwe for two or three years.

Mr. Hearder said that the school year in Zimbabwe was the same as in Australia. "In other words, we are working on getting as many of the 500 teachers as possible to arrive here by the end of next January.

"The need has arisen because of the Zimbabwe Government's desire to try to increase significantly the number of African children who can have secondary schooling. It is expected that in many schools there will be a system of 'hot seating' in Form I, i.e. two sessions of schooling per day, in order to make maximum use of existing facilities.

"Another urgent requirement is teacher trainers to increase the number of Zimbabwean teachers. Part of the programme at the primary level would be to give crash training courses to some 8,000 primary school teachers who are untrained," the High Commissioner said.

The Director of the Australian Development Assistance Bureau, Mr. C. Hole, said the Minister for Foreign Affairs had approved a staffing assistance scheme for Zimbabwe under which Australian teachers may be recruited for Zimbabwe with supplementation from aid funds. The recruiting agency in Australia, to which inquiries should be sent, was Skilled Engineering, 45 Buckhurst Street, South Melbourne, Victoria, 3205. (Contact Mr. Warren Knowles, or Mr. Garry Taig, 03 699 4199).



Merry Christmas

Elections

Appointments

Professor T.J.C. Boulton, Professor of Paediatrics, Faculty of Medicine.

Professor R.J. MacDonald, Professor of Physics.

Resignations

Resignations

Mr. J.R. Smyrk, Lecturer, Department of Commerce.

Newcastle Group of the Australian Institute of International Affairs is offering a talk on the 1980 U.S. Presidential Elections to those who attend the Group's final meeting for the year.

Assoc. Professor Lionel Fredman will give the address. Professor Fredman has been in the United States of America during the past few months and was able to observe at firsthand the closing days of the U.S. elections.

The meeting will be held in Room R04 in the Geography Building on December 5 at 8 pm.

Convocation

The Warden of Convocation (Mr. Philip Miller) has expressed Convocation's thanks to the Newcastle Morning Herald and Miners Advocate Pty. Ltd. for the company's grant of \$300.

The money was provided to augment grants of \$1,000 made by Alcan Australia Ltd. and \$300 by the Joint Coal Board to support research being done by Mr. Jim Comerford, Convocation's Visiting Scholar.

Mr. Comerford is presently in Hobart investigating aspects of mining in the convict era in connection with a history he is writing. During his residency at the University he has a room in the McMullin Building.

Summer school

The 13th Annual Mathematics Summer School for high school students proceeding to Year 12 will be held at the University during the long vacation. Already more than 100 students have indicated that they will attend the summer school, to be held on January 19, 20 and 21.

Professor John Giles, Director of the School, said that judged by this response there was a revival of interest in Mathematics among senior high school students.

He said the school had

attracted students from as far afield as Wauchope, Gloucester, Muswellbrook and Gosford. It was not only for dedicated mathematics students but also for students about to commence final school year.

Dr. Jeff Sanders, a young mathematician from the University of New South Wales, will be guest lecturer. Dr. Sanders will show how mathematicians can solve puzzles like Rubic's Cube.

There will also be considerable emphasis on computing and students who already have some basic knowledge will be able to opt for an advanced computing workshop. Dr. Ian

Beaman, of the Department of Commerce, and Mr. Peter Stowe, of Waratah High School, will be in charge of the computing instruction.

Another feature will be a course on Astronomy arranged by the Hunter Valley Astronomical Society.

The summer school is being organised for the Newcastle Mathematical Association by Professor Giles, Mr. Bill Galvin (NCAE), Mr. Clive Seabrook (Waratah High), Mr. Don Murphy (Lambton High) and David Holloway (Fifth Form, Lambton High) in collaboration with Dr. Brian Smith, of the Department of Community Programmes.

Advertisements

CAR RENTAL

Professor visiting from interstate would like to rent a car from December 15 to January 15. Very careful driver, commuting only. Please telephone Extension 532.

FOR SALE

FORD ESCORT PANEL VAN - Registered until November, 1981. One woman owner, only used on tarmac. Recently purchased four tyres, electrical system renewed. NRMA agreed market value for insurance which was examined on November 10. \$2,500. Mileage 32,000 (km.54,000). Offers are invited. Please telephone 51 4275, 8 am or 7 pm are the best times.

CAPSELA - the space age construction kits, models K500 and K300, fully equipped, excellent Christmas gift for boy eight onwards. Please telephone Extension 375, or come along and inspect in Room LG52, \$35.

SPECIAL DISCOUNT

Members of the Staff House are reminded that the Club has a good collection of wine and spirits. Purchases of wine over \$20 by members will attract a discount.

A GOOD TURN - THANKS

To the person who was kind enough to supply the registered number of the vehicle which damaged my car on Friday, November 21, my sincere thanks. Geraldene MacKenzie.

FOR SALE

TRIUMPH 2.S.PI AUTOMATIC - Sedan, cassette stereo, excellent condition. \$2,650. Please telephone Joan on Extension 454.

WANTED TO BUY

An exercise bike, in good condition. Please telephone Gloria on Extension 240.

COOKS HILL AFFAIR

Margo Longworth, of the Auchmuty Library, is Treasurer of the committee which is organising this year's Cooks Hill Fair. She says the famous annual fun day in Centennial Park, now called the Cooks Hill Affair, will offer the usual wide range of stalls, plus a National Trust display in St. John Hall, Cooks Hill, a visit by Pippi Storm (children's entertainers) and live jazz by Plus 4 and the Newcastle-New Orleans Jazz Band. Any surplus of funds is donated to the libraries of schools in the area, Margo says.

The Affair will be held on December 6.