



# THE GAZETTE

The University of Newcastle, N.S.W., 2308

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## MOVABLE POLLUTION TESTING

The University has entered the new and unique Australian field of mobile air pollution testing.

Residents of the City of Newcastle can expect to see a motor vehicle bearing the name "NBN 3-University of Newcastle Environment Measurement Unit" (EMU) being driven around their streets. Sophisticated "sniffing" equipment has been installed in the vehicle, which will be used to obtain data on the quantities of some of the main pollutants in Newcastle's atmosphere at a range of locations.

The service has, in large part, been made possible by the Newcastle Broadcasting and Television Corporation Limited, which operates the commercial television station, NBN Channel 3. The company's General Manager (Mr. K.W. Stone) expressed keen interest in his station broadcasting air pollution bulletins as a T.V. public service and he sought the assistance of academic members of the university's staff who were undertaking research into air pollution. When the Vice-Chancellor, the Chairman of the Board of Environmental Studies (Professor F.M. Henderson) and the Head of the Department of Mechanical Engineering (Professor A.J. Carmichael) responded favourably Mr. Stone's company agreed to give the project a large degree of sustentation, namely \$14,500 to finance the purchase of a van and air pollution measuring equipment.

An agreement was signed by Newcastle Broadcasting and Television Corporation Limited and the Vice-Chancellor; subsequently the van and the equipment were acquired and the mobile unit was assembled and tested. At least one of the sensing and measuring devices - the sulphur dioxide detector - is the first of its kind to be utilized in Australia.

EMU will detect and measure the amount of sulphur dioxide, carbon monoxide and dust in the air. NBN Channel 3 will communicate the findings to members of the public as part of its televised weather reports. The television station's weatherman, Mr. Des Hart, who has a good reputation in the Newcastle Region for his informative weather bulletins, will be the reporter.

In return for NBN Channel 3's collaboration, the Department of Mechanical Engineering has provided staff to operate the mobile testing unit and supply information on the levels of air pollution. Various Engineering Departments teamed together to instal the "sniffing" equipment in the van. The service is being generally supervised by Professor Carmichael and the unit is manned by Lecturer in Mechanical Engineering Dr. A.J. Chambers. Dr. Chambers holds a Ph.D. from Stanford University where his research was concerned with transfers of energy and mass at an air-water surface. This is

a problem in which the governing mechanisms are similar to those for the disposal of polluted air.

The programme of measurement prepared for the mobile unit is concerned with outdoor levels of sulphur dioxide (SO<sub>2</sub>), carbon monoxide (CO) and haze in the Newcastle area.

The figure at the end of this article shows the variation of sulphur dioxide, smoke, deaths and temperature in London in December, 1952. From this figure the death rate and the SO<sub>2</sub> levels appear to be correlated. However, despite this correlation and similar inter-relations found in New York, medical opinion is that SO<sub>2</sub> is not the agent that is causing the excess of deaths. It is felt that concentrations of sulphur compounds should be regarded as an index of the general level of pollution.

Gases emitted by motor vehicles are the chief sources of carbon monoxide, high concentrations of which can be fatal to humans. The levels normally found along busy streets in Newcastle may impair reflex activity and, thus, contribute to accidents.

When carbon monoxide enters the body it reacts with the blood haemoglobin to form a carboxyhaemoglobin. The median carboxyhaemoglobin concentrate of a 20-a-day cigarette smoker who inhales is about 6% (a 66% saturation is usually fatal).

In London people exposed to high carbon monoxide levels have been tested and for the non-smokers these tests have shown carboxyhaemoglobin values generally less than 2%.

As regards particulate pollutants (particles generally larger than 10 microns), Newcastle City Council has an extensive testing network which measures this type of fallout. The findings indicate a decrease over the past 10 years.

Particles small enough to remain suspended in air indefinitely (smaller than 10 microns) are capable of being inhaled and may remain for long periods in the lungs.

EMU has the advantage over a fixed station of mobility and can be left at a site or moved to a number of sites. It will be used for measurements at weekends as well as on week days. Data obtained should be useful in several ways apart from helping to overcome pollution and protect the community's welfare; it should accelerate the university's long-range research into air pollution and assist the Board of Environmental Studies with its investigations into the total environment.

As Newcastle is predominantly industrial, with one of Australia's largest concentrations of heavy industry, it is highly unlikely that the mobile unit will fail to detect instances of air pollution. After the project was arranged representatives of industrial plants attended a

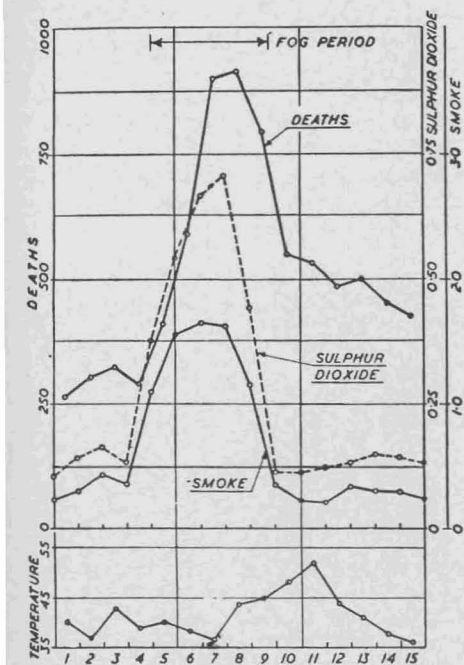


Pictured is the mobile unit to be used by NBN Channel 3 and the University to provide air pollution measurements. (Photo: supplied by Philips Industries Ltd.)

meeting at which Professor Henderson assured them that a "fair and representative picture of the Newcastle situation" would be presented.

Dr. Chambers said that some officials of industries had indicated their willingness to allow him to look at their plants to see what methods were being used to combat pollution. However, he stated, the problem of pollution would not be solved by industry alone; members of the public increased the nuisance by burning rubbish and neglecting to take steps to reduce the emission of CO and hydrocarbons by their cars. Some American cities compelled citizens to dump rubbish rather than burn it. He had noticed the cleanliness of U.S. national parks; for example, people who walked into the Grand Canyon were personally held responsible for any litter they left; the common view was if they could carry it in they could carry it out again. Australia could well afford to follow this example.

Dr. Chambers said he was hopeful that the "NBN 3-University of Newcastle Environmental Measurement Unit" would be the first step towards a very desirable goal — the issuing of air pollution forecasts. Weather patterns caused a succession of changes in the Newcastle air pollution picture. Only at certain times was fallout bad. Thus bulletins analogous to "fire danger periods" might foreshadow periods in which fallout was likely to be serious; consequently, authorities would be in a position to call upon industries and citizens to minimise the problem.



Units—Sulphur Dioxide — Concentration in parts per million of air (mean of ten sites). Smoke — Concentration in milligrams per cubic metre of air (mean of twelve sites). Temperature — Degrees Fahrenheit (noon readings on Air Ministry roof). Deaths — Total number occurring each day.

Deaths, Air Pollution and Temperature during December 1952, in Greater London (Population 8½ millions)

Source: Interim Report of U.K. Committee on Air Pollution (Beaver Committee), 1953.

## CONVOCATION

*The Warden of Convocation (Mr. W.G. Derkenne), with the Secretary of the Standing Committee (Miss F. Burns), attended the sixth annual meeting of the Australian University Graduate Conference held in Hobart from 29th to 31st January.*

The A.U.G.C. Conference, which was attended by delegates representing approximately 100,000 graduates living in Australia, expressed concern about the current employment problems confronting graduates.

The President (Mr. R.A. Corin, of Sydney) said that the Conference would urge the Commonwealth Department of Education and Science to undertake a national and state-based survey of the projected need for tertiary graduates in all fields. The Conference would also ask that the information gained be published annually in an updated report for the information and guidance to intending University entrants.

The Standing Committee of the Convocation of the University of Tasmania submitted that parents of students living beyond a centre served by a university were subjected to a far greater financial burden than was just or reasonable. The Standing Committee requested that the Federal Minister for Education and Science be asked to take steps to redress this grievance in the interest of equal educational opportunity for all the citizens of this nation.

In the course of its investigations the Standing Committee found that a United Kingdom student who was accepted for a place in a university was entitled to a scholarship as a right, while a somewhat similar situation operated in New Zealand.

The ideal would be to adopt a comprehensive scheme similar to the United Kingdom and/or New Zealand schemes, but, if it should prove difficult to implement such a proposal immediately, an interim scheme should be introduced for students resident in non-university centres who qualify for a place in a university. The basic elements of such a scheme, which should aim to put the parents of students living in non-university centres on the same footing as those living in university centres, should be: (a) an adequate accommodation allowance; (b) a travel allowance to cover a return trip home each term. (The principle of providing travel and establishment allowances is already accepted in the case of Commonwealth Post-graduate scholarships).

The Standing Committee said that such a scheme would: (a) provide equal educational opportunity for all qualified students regardless of whether they lived at Mount Tom Price, Oodnadatta, Burnie or Canberra; (b) enable the nation to provide an economic universal tertiary education service until such time as it can provide adequate regional colleges and a comprehensive scholarship scheme; (c) remove a real grievance from hinterland taxpayers who perform a valuable economic service to the nation, especially in such remote areas of Australia as the iron-ore fields, but consider that their children are disadvantaged by comparison with the children of citizens resident in the national and state seats of government.

The Conference called on the Commonwealth and State Governments to give full consideration to the problems of tertiary students

living outside centres where tertiary education is available and their solutions, so that students at least have parity with their counterparts living in a tertiary education centre.

The following officers for 1972 were elected at the meeting: —

President, Mr. R.A. Corin, University of N.S.W.; Vice-Presidents, Miss A. Holzer, Monash University, Miss J.E. Rogerson, University of Western Australia; Executive Secretary, Mr. A.J. Mason, University of Sydney; Education Officer, Mr. M.C.B. Hills, University of Tasmania.

Mr. Corin said that the next Annual Meeting would be held at the University of Queensland on the Australia Day weekend in 1973.

## UNIVERSITIES, THREE VIEWS

*At the Sixth Annual Meeting of the Australian University Graduate Conference in Hobart a one-day seminar had as its theme "The Role of the University in Society . . . as seen by the Universities, the Government and the Community".*

*Professor N.H. Fletcher, Professor of Physics and Pro Vice-Chancellor of the University of New England, gave his assessment of the university viewpoint. Among other things, he said:*

"All professions are socially important and it is important that their practitioners be as well trained as possible, but if the University is simply to be a universal tertiary training institute it will lose all those distinctive qualities which make it a University.

"These qualities, I would argue, come essentially from the existence of a substantial body of students studying academically tough disciplines for their own sakes — things like Mathematics and Chemistry and Latin and Music which are, it is true, often practically useful but which are not studied for this reason alone. If these students become a small minority then the University will have become a trade school.

"Many Universities, following a bad American example, are drifting in the wrong direction here. New 'professional' courses should not be offered with little thought simply because a demand exists. Rather, the Universities should ask whether there is something special about this particular profession which can be supplied only by a University and not, for example, by a C.A.E. and, conversely, whether the study of this professional discipline can contribute something to the University which will be of value to its other students. Unless the answer to both these questions is yes, then it should stay outside the University.

"The central touch-stone of purpose within a University has always been supposed to be the disinterested pursuit of knowledge and, unless this is preserved, the University is that in name only. We recognise, of course, the vast gulf between the ideal and the reality, but unless the ideal is cherished we are lost.

"This pursuit of knowledge takes place, of course, on many levels. The student should be exploring, with the guidance of his teacher, the carefully cultivated and well mapped fields of established understanding. The teacher, to keep his mind awake, must either work at the edges of the field where a way can be found through the woods to fresh pastures, or, by careful re-charting of the known fields, recognise new

links and patterns among familiar things. These twin fields of research and scholarship are the life-blood of the University, and to them I would add a third which is often neglected — the dreaming of dreams, the seeing of visions, the creative urge of the artist. This has its part in all fine research and scholarship, but is finest in the musician, the poet, the painter. It is a lonely pursuit, whose rewards lie with posterity. I would like to see our true Universities more active in this realm.

"The Universities should also have a concern for general education outside the confines of degree courses. Australia is singularly backward in making any use of radio and television for this purpose. The ABC does its best with a small budget and a lamentably limited access to broadcast and TV channels; the commercial networks are devoted to the pursuit of the lowest common denominator in all things. There is, however, a ray of hope in the long-awaited report of the Broadcasting Control Board on the introduction of FM broadcasting. If this recommendation is made and accepted then perhaps we can look forward to an educational network on which I hope the Universities will play their part.

"Research is part of the life blood of a University. The purposes of University research are three-fold: to benefit the staff member, to benefit his students and to benefit the subject.

"A critical mind requires continual sharpening and, if University staff are to work effectively, they need continually to face new questions. Students, I believe, can either benefit or suffer from the effects of the research of their teachers. For advanced students the benefits are clear and the losses negligible. It is the ordinary student we should consider. The gains here come from the sharpened perceptions of the teacher, the losses from his preoccupation with research instead of undergraduate teaching. For the below-average student the gains are negligible and the losses may be great. The balance varies from one individual to another and it is probably only the individual staff member who can adjust it. Finally, the research itself. I firmly believe that the research done in universities should be that which can demonstrably be done better or more appropriately there than in other organizations. Big team efforts, crash programmes and short-term *ad hoc* research should not take place in Universities except in time of emergency — all these are better carried out by Government agencies or industrial laboratories.

"The clearest and most pressing problems about the future role of Universities in the community are posed by the development of the competing institutions like the Colleges of Advanced Education. If the distinctions between all tertiary institutions are vague and ill-defined, then social, rather than academic, pressures will convert them all to Universities and, because there will not be enough good students to go round, a clear packing-order of Universities will develop on the American pattern. It is by no means sure that existing Universities will remain near the top of this order and quite extraneous influences may be decisive. The alternative, and I think the only rational course, is for the Universities to define more clearly their own role and to do it in such a way that the distinction is clear. There is

unlikely to be any realistic result from the contrary procedure in which the Universities try to define and limit the role of the Colleges.

"Any reasonably dispassionate look at Universities entrants must convince anyone that at least one third of them should not be at a University at all — their basic training in the common skills that should be learnt at school is poor and many of them have no real interest in University studies. The Universities then, should be much more selective. I heartily agree with the Australian Union of Students that the selection should not be on financial or social grounds, that tertiary education fees should be abolished and the means test on Commonwealth Scholarship allowances removed. There is, however, I believe, no substitute for a decreased percentage University intake. We are already producing more graduates in most fields than can be absorbed by society into the sort of jobs they feel they should have, and the immense tail of unsatisfactory students in all Universities means either that special lower-level courses must be devised for them or that they will hold back those students who are properly qualified for University study.

"Finally, I would suggest that all University degree courses should extend over a minimum period of four years. Those of us in the sciences, particularly, know how recent changes in the secondary school systems over much of Australia have reduced the level of understanding and technical proficiency of the average University entrant in science and mathematics, and I suspect that the same is true in many other, though not all, fields. At the same time the amount of material of which even a pass graduate should have some grasp is increasing rapidly. The only solution, to avoid overcrowded syllabuses, with no time for thinking, seems to be to extend the length of the course.

"A set of criteria like this, by limiting the scope of Universities, should also provide an appropriate field for the colleges of Advanced Education. These Colleges could and should provide an alternative form of tertiary training for those students who at present fail or are unhappy at University. I would like to see C's.A.E. as providing, on the one hand, fairly

well defined courses leading to qualifications in business, agriculture, industry, engineering, paramedical studies and perhaps teaching (although this last may possibly be more appropriate as a University course) and, on the other hand, providing a range of 'liberal arts' courses at a level appropriate to the top 20 to 30 percent of the population, but not for the top 5 to 10 percent who will go to Universities.

*The Government's conception of The University was discussed by Dr. B.J. Solomon, M.P. for Denison, a former Rhodes Scholar and a member of the Federal Government's Education Committee. Dr. Solomon's main points.*

"A former colleague, whose intelligence I greatly respect, has written that to the politician the university 'is a cage for well-stuffed minds that are fun to toy with and too dangerous to be left uncontrolled'. There is, I think, more truth in this assertion than some would care to recognise. However, as a generality it is too cynical, and as an expression too pointed to represent truly those politicians' views of which I am aware.

"Considering the major character of the original legislation setting up the Australian Universities Commission, it is likely to be some time until a need for substantial revision of the Government's view of universities is perceived or pressed. Interim commentary is more likely to emanate from the Minister than anyone else, and that in response to annual budgetary allocations for university education. The establishment of another tertiary agency, such as one to administer C's.A.E., may promote a more searching examination of roles than the annual financially based assessment.

"Some of you may regard what I have said so far as an exercise in cynicism or a confession of governmental incompetence. Neither, I believe, is the case. Without excusing the failure of Australian Governments to embrace unequivocally the practice of providing White Papers on important subjects, I am saying that it is unrealistic to expect a representative government to deal much in educational philosophy. The capacity of a subject like State Aid to arouse parliamentary fervour does not, I think, disprove my claim.



Work on the construction of Stage 11A of the University Library.

"The Hon. Malcolm Fraser, in a Ministerial Statement on the Commonwealth's 1971-72 education programme, said, in part, 'The Government fully recognises the national importance of education . . . and its objective is to do what it appropriately can . . . to improve the quantity and quality of education in Australia'. After detailing a 14 percent increase in expenditure, making for a doubling since 1967/68, Mr. Fraser first referred to universities and C's.A.E.: 'Grants to the States for their universities will increase by 20 percent and will total \$90m . . .' and 'The Government is willing to join with the States in providing funds for universities and C's.A.E. . . . to assist them in meeting increases in costs arising from substantial salary and wage increases for non-academic staff . . .'. A practical view of the universities' role?

"Towards the end of his statement the Minister said, in part, 'Tomorrow's tasks will require higher skills and better management than in the past. If we cannot match the large nations in capital and invention, we can at least be our own managers . . . Investment in education is investment in adaptability and capacity to survive . . . We ought to strive harder than ever before to achieve what no generation has achieved: a community composed of men and women for whom human values are more important than material advantages . . .'.

"Many people dislike the association of politics with education. Not everyone comprehends the 'trading out of interests in the political market place' and some are very ready to deplore as political football decisions on expenditure priorities at variance with their own. The A.U.C. was established to obviate any undue exercise of the power of the purse in the development of Australian universities. The recent formation of the Australian Advisory Committee on Research and Development in Education is further evidence of proper thinking in closely allied matters.

"No national government is these days unaware of the fundamental importance of investment in education, and least of all are the universities likely to leave any such unawareness undisturbed. The task of deciding how much investment is a difficult one indeed. There is no right answer, since society changes as a result of the investment. What we are engaged in is a constant quest for the optimum development of our human resources, without which we cannot develop much else, whether it be a modern political and social structure, a sense of national unity, or high standards of material welfare. Desirable as it is for the Government to have a clear view of where the universities should stand in this process, quite the best-equipped section of society to formulate such a view and persuade those in politics of its worth are the universities themselves. For maintaining their traditional place at the apex of the educational pyramid that would not seem a high price to pay."

Mr. R.S.J. Valentine, President of Hobart Chamber of Commerce, spoke on "The Role of the University in Society as Seen by the Community". He asserted, inter alia:

"Sir Robert Menzies, then Prime Minister, speaking in Federal Parliament in 1957 about the passing of the days when the universities were said to be the prerogative of the 'idle

rich', said he felt the universities 'would not forget that under all the circumstances . . . the community is accepting heavy burdens in order that, through the training of the university graduates, the community may be served.'

"This expresses the view which apparently has been accepted and acted upon in political circles in this country for decades. However, the implication that the work of the university is but to perform a social service function and that a university should be assessed on this function alone has never been accepted by academics. I believe the community would not support the extremes represented by either the social service function or the ivory tower — pure-learning function, but certainly is prepared to acknowledge the existence of both provided there is maintained a proper balance of the two.

"No doubt due to the increasing dependence upon the taxpayers, emphasis is given by universities to vocational training. The cultivation of the professional faculties and the introduction of new faculties to meet the needs of the community, such as in the fields of agriculture, commerce and industry, illustrates that the university has indeed exhibited the flexibility so essential in such an institution.

"The community sees the work of a university to be primarily relevant to that community, and expects it to proportion its activities accordingly. However, in every instance of my own enquiry, society clearly is not prepared to accept abuse of the freedom of thought which exists at a university. Society insists upon a recognition by those attending universities that change should only take place by lawful methods. Student unrest has resulted in universal complaint, and the view is firmly held that the community is paying for students to attend the university to learn, not to actively attempt to set about the destruction of the social structure and institutions which have been evolved over centuries of trial, error and compromise. Such destruction appears to be advocated for its own sake and no constructive system appears contemplated by the dissidents. The image has been 'society is in a mess, let's destroy the present structure', but to the question 'with what will you replace it?' the answer appears inevitably 'well we haven't decided about that yet'.

"It is fair to say that universities in Australia have to date enjoyed the respect of the community, but two clouds on their image are creating a reaction which could cripple, if not destroy, their present freedom.

"The community expects a general education, with its freedom of thought, its questioning and its re-appraisal, to result in an appreciation leading to tolerance. The abuse of such freedom of thought and the violent exercise of a point of view to bludgeon society into awareness of such opinions is an intolerance which as a matter of principle the demonstrators purport to abhor.

"Whilst society and the community at large is not advocating totalitarianism in the university, it is demanding that discipline be instituted, maintained and enforced. The invasion and barricading of university buildings by students, and the provocation, incitation and violence which has accompanied such incidents, is behaviour that cannot be tolerated by the community, which is footing the bill both for the

material assets and, it is generally believed, the cost of sending the vast majority of the demonstrating students to their university.

"A second matter causing concern is the belief that universities are turning out too many graduates. This reflects the predominance in the community of the view that the main function of universities is vocational training. The point of view of the academic is of course, that one can never have too many graduates, and, if, for example, a labourer on the wharf has a Bachelor of Arts degree, then he and those in contact with him are better off for it. But this is not how graduates see it, as it is not the way they have been conditioned to think. Too many graduates, perhaps most, believe a degree opens any door.

"One may run the risk of being lynched for suggesting there should be a complete reappraisal of our attitudes to advanced tertiary education. There are those who say education has become a holy cow and the emphasis on it generally is grossly exaggerated and is outstripping the demand, the need and the desire for education beyond certain levels. Such a suggestion may certainly be political suicide. The voicing of such a view may have one struck off dinner lists and, in some quarters, would result in ostracism by society. However, it could well be a practical and realistic thought to explore.

"True it is that the Martin Report concluded: 'The Committee recognizes that in certain specialized fields there may be conflict between individual aspirations and community needs. However, it believes that, in general, such conflict should be resolved by the operation of supply and demand. Research into future requirements for certain types of training is useful; but the Committee does not believe that the entry of students into various courses should be restricted to forecasts of future needs. This would circumscribe educational opportunity and involve the risk of grave error'. But can this view still be supported in the light of developments in Australia since the Martin Report? There is no denying there does exist the problem of too many graduates for job opportunities. Predictably the Commonwealth Government is first to be blamed, it being said that the major factor contributing to this situation was the dampening down of the economy in the 1971 budget. However, it does not appear to be the whole answer. Mr. Kidd, Secretary of the University of Sydney Appointments Board, stated that contribution to the situation was an increased flow of graduates from overseas. Our present attitudes may well be to shrink from 'manpower' planning and quotas, but certainly there are good arguments for national co-ordination, which although regarded as socialistic, may become necessary. There may be great value in the setting up of some agency which would have regard to the balancing of the products of the universities with the needs of the community.

"What does the community see as the role of the university? The community requires value for its money, and, whilst at the same time acknowledging that one of the roles of the university is education for its own sake, it nevertheless regards its primary role as one of benefit to the community as a training establishment."

## STANDING COMMITTEE

In response to a request for Convocation to support the Great Hall of the university, the Standing Committee adopted the provision of the doors for the building as a Convocation project for 1972.

The Warden (Mr. W.G. Derkenne) was authorized to meet the Chairman of the Lord Mayor's Newcastle University Committee (Ald. F.J. Purdue) to pledge Convocation support and to confer with the Vice-Chancellor on possible ways of Convocation making a maximum donation towards the cost of the doors.

The Secretary of the Standing Committee (Miss F. Burns) read a letter from Ald. Purdue at the Standing Committee's meeting on 22nd February. Ald. Purdue stated that costs associated with the construction of the Great Hall had escalated since work was begun in November, 1970, and at least \$100,000 in excess of the \$1 million already in hand was required to complete the project and provide furnishings.

The Warden has invited members of Convocation to assist the Standing Committee's campaign by sending donations to the Secretary of Convocation, University of Newcastle, 2308.

Convocation staged a successful seminar with the theme "The Relationship Between Colleges of Advanced Education and Universities" at the University on 10th March.

The Standing Committee was influenced to hold the seminar because of strong views being ventilated on the subject. It arranged for the following speakers to address the seminar: Professor L.N. Short, Professor of Education, University of Newcastle; Dr. R. Werner, Director, N.S.W. Institute of Technology, Sydney, and Mr. G.H. Duncan, Principal, Newcastle Teachers' College. The Warden expressed his delight with the good attendance and Professor E.O. Hall acted as Chairman.

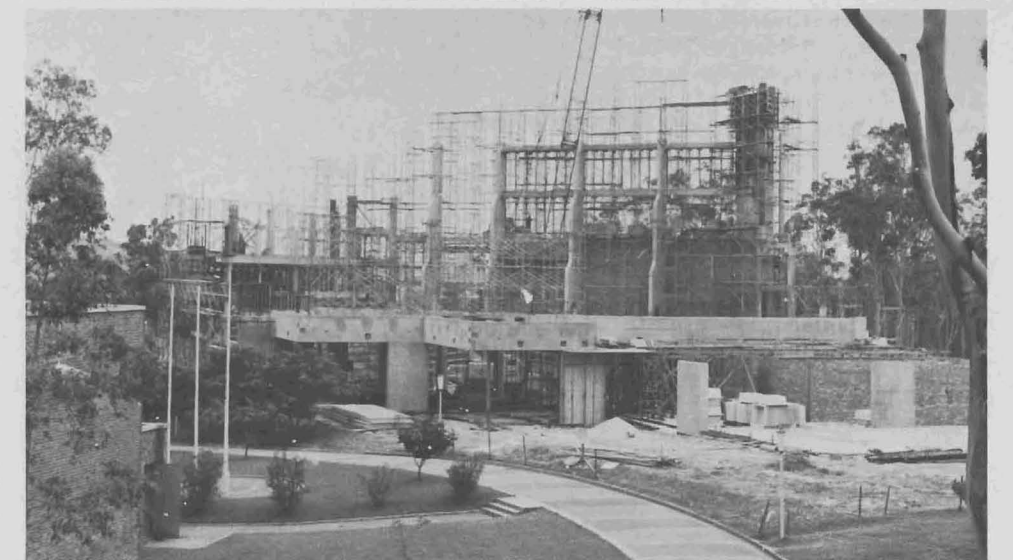
Following a recommendation from Dr. P. Richards, representing the Issues Sub-Committee, it was resolved by the Standing Committee that Convocation hold a seminar during the university's second term on "The Provision of a Medical School in Newcastle".

The Education and Issues Sub-Committees (Professor E.O. Hall, Dr. P. Hendry, Dr. Richards and Mr. B. Vitnell) were amalgamated and Mr. K. White was elected to succeed Mr. Vitnell, who has resigned.

Miss Burns possesses a list of addresses of Australian graduates who are living in England, Scotland and the United States of America. The list, prepared for the Australian University Graduates Conference by Miss A.J. Holzer, is available to Members of Convocation. The people shown on the list are willing to help Australian graduates who are travelling overseas.

Miss Burns said the A.U.G.C. would conduct a seminar on "Continuing Education For Graduates: Problems and Possibilities", probably at the University of Melbourne, from 26th to 28th May.

Convocation's annual general meeting will be held in the Staff House at the university on 5th May and the Convocation Dinner will be held on 12th July. It is intended to use proceeds from the dinner for the Great Hall Doors Fund.



Work on the construction of the University's Great Hall (above) is progressing satisfactorily and the project should be completed before the end of this year. Further donations are being requested to meet increased building costs.

A Newcastle piano dealer, Mr. V.C. Millington, Melbourne firm specialising in instruments, Rose Music Pty. Ltd., and Yamaha, Japan, collaborated to provide the University with a Yamaha Concert Grand piano for the Great Hall (below).



## NEW MEMBERS OF STAFF

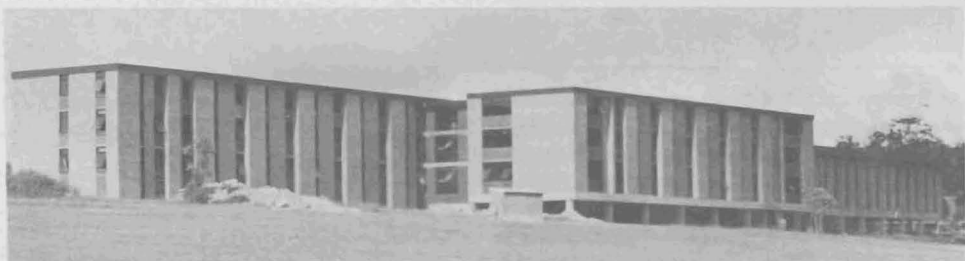
Dr. W.P. Wood has taken up his appointment as Lecturer in Mathematics. Dr. Wood holds a B.Sc. degree with Honours and a Ph.D. degree in the University of New South Wales. Before joining the university he was attached as a Research Fellow to the Department of Theoretical Physics in the Research School of Physical Sciences at the Australian National University. Dr. F. Walla has begun duties as Lecturer in German. Dr. Walla holds the qualifications of Lehramtsprüfung and Ph.D. in the University of Vienna and since 1962 has filled a number of teaching posts in England and Europe. For six weeks in 1970 he was attached to Salzburg Summer School for Foreign Students and before joining this university was Lektor at Westfield College, London.

Mr. R. Fielden has begun duties as Post-doctoral Research Fellow in the Department of Chemistry. Mr. Fielden holds the qualifications of Associate of the Royal Institute of Chemistry and Associate of the Royal College of Advanced Technology (1st Class Hons.) in the

University of Salford and has completed work on a Ph.D. degree.

Dr. A.J. Guttman has taken up his appointment as Lecturer in Mathematics. Dr. Guttman holds the degrees of Bachelor of Science and Master of Science in the University of Melbourne and Doctor of Philosophy in the University of N.S.W. He was a Postdoctoral Fellow at Kings College, University of London, from September 1969 until joining the university. Dr. Guttman has been appointed as a member of the Board of Studies in Computer Science.

Mr. L.V. Entrekina has taken up his appointment as Lecturer in Commerce. Mr. Entrekina comes from Arizona, U.S.A. and holds the qualifications of B.S. in Northern Arizona University and M.B.A. in the University of Nevada. He graduated from Northern Arizona University in 1966 with Distinction and Phi Kappa Phi. He worked in the Marketing Division of the Eastman Kodak Company from 1966 to 1970 and was granted leave of absence to enrol at the University of Nevada. Mr. Entrekina belongs to Beta Gamma Sigma, a national honorary scholastic society connected with Business.



The University's first Hall of Residence is scheduled to be completed in stages this year — the first in June and the second in September. Applications have been called for student residents; the college will be made available in vacations to members of the public who require accommodation for conferences.

Mrs. J.P. Galvin, who was awarded a Bachelor of Arts degree with Honours in this university in 1971, has begun duties as Tutor in Geography.

Mr. J.C. Walker has taken up his appointment as Lecturer in Education. He holds B.A. and Dip.Ed. degrees in the University of Sydney and is working towards an M.Ed. degree. Mr. Walker has been a high school teacher and a Teachers' College lecturer. Prior to joining this university he was a Lecturer in Education at Bedford Park Teachers' College, Adelaide.

Dr. D. Jaffrey has commenced duties as Lecturer in Metallurgy. Dr. Jaffrey holds the degrees of B.Sc. with Honours in the University of Queensland, M.Sc. in McMaster University, Ontario, Canada, and Ph.D. Degree in the University of Cambridge. While a member of Churchill College, Cambridge, he was awarded a half blue in water polo and represented the college in rowing and swimming. He is married with two children and prior to assuming duties at this university held appointments in Melbourne with the B.H.P. Co. Limited and at Mt. Tom Price with Hamersley Iron.

Mr. B.P. O'Shea, who holds the degree of B.Com. in the University of N.S.W. and has been a high school teacher for 16 years, has joined the Department of Commerce as a Senior Tutor.



Professor H. Melvin Lieberstein, formerly attached to Wichita State University, U.S.A., has taken up his appointment to the second Chair in Mathematics.

Mr. C.S. Enright has begun duties as Lecturer in Legal Studies in the Department of Commerce. Mr. Enright holds the degrees of Bachelor of Laws in the University of Sydney and Bachelor of Arts in this university. He practised as a solicitor before joining the academic staff.

Mr. P.W. Newton has taken up his appointment as Tutor in Geography. He holds the qualification of Bachelor of Arts in this university; the conferring of his M.A. degree is pending.

Mr. I.R. Beaman, previously a Computer Programmer in the Computer Centre, has begun duties as Lecturer in Commerce. He is a Bachelor of Science in the University of N.S.W. and holds a Diploma of Industrial Engineering.

Mr. W.N. Jenks, who comes from New Zealand, has commenced duties as Tutor in Geography. He is a Bachelor of Arts and Master of Arts in Otago University and holds a Diploma in Education.

Mr. G.W. Nichols, who graduated as a B.E. with Honours in this university in 1971, has taken up duties as Senior Tutor in Civil Engineering. Before joining the university Mr. Nichols was attached to the Hunter District Water Board as a cadet engineer.

Mr. T.M. Bakker has begun duties as Demonstrator in Psychology. He holds the degree of Bachelor of Arts in the University of Tasmania.

#### STAFF MEMBER'S BOOK

Dr. Noel Rutherford, Senior Lecturer in History at the University, is the author of the book, *Shirley Baker and the King of Tonga*, which has been published by Oxford University Press, Melbourne, and sells for \$9.

The book is essentially a biographical sketch of Reverend Shirley Waldemar Baker, who, a Wesleyan missionary in Tonga from 1860 to 1879 and Prime Minister from 1880 to 1889, co-operated closely with the Tongan King George Tupou I, in the drawing up of codes of laws and a constitution for Tongans at a time when Western civilization was forcing itself upon South Pacific native communities.

As the author observes, Tonga, alone among the island groups of the Pacific, emerged from the nineteenth century as a sovereign, independent state. Other island polities were absorbed into European colonial empires. Tonga has its own king, cabinet, legislature, constitution, code of laws and even its own church; the Kingdom's land is exclusively and inalienably Tongan.

Dr. Rutherford states that Tonga made its remarkably successful adjustment to the modern world under King George Tupou I during a period dominated by Shirley Waldemar Baker,



Rev. Shirley Baker.

about whom writers, beginning with Basil Thomson, a British official who succeeded Baker, reached untrustworthy opinions. Dr. Rutherford decided it was important to re-examine the career of Shirley Baker and to re-evaluate his contribution to developments in Tonga between 1860 and 1890.

Baker was born in London and came to Australia during the gold rush. He was converted to Methodism, ordained as a missionary and sent to Tonga in 1860. For twenty years he worked as a missionary, developing a close co-operation with Tupou.

Scandals over his methods of raising funds, however, caused the Missionary Society to recall him in 1879. By 1880 he was back as Prime Minister. Baker revenged himself on the Wesleyan Mission by establishing a Free Church and forcing all Tongans to join it. Bitter persecutions followed and after an attempt on his life, the British stepped in and deported him in 1890.

In the epilogue, Dr. Rutherford declares that it is in the verdict of writers on Baker as a man and politician that the greatest miscarriage of justice lies. "He wrought a revolution of tremendous significance in Tonga, guiding a tribal, quasi-feudal society as it transformed itself with a minimum of distress into a modern constitutional State."

The author carried out most of the research for *Shirley Baker and the King of Tonga* while he held a research scholarship in the Department of Pacific History at the Australian National University. A portion of the work was done in Tonga and the book is dedicated to the King, Taufa'ahau Tupou IV.

The response of book critics has been complimentary. Dr. Rutherford had produced a fine book, Les Shaw wrote in the *Canberra Times* and "as an academic exercise, it is a thoroughly documented biography. As something to peruse, it is an entertaining volume which is a pleasure to pick up and a delight to read".

Ian Grossart, reviewing the book for the *A.P.S.A. Journal*, Vol. 4, No. 2, said Dr. Rutherford had shown such a sensitivity to the problems of societies undergoing rapid change (and political change in particular) that "we must look forward to his forthcoming history of the Friendly Islands and hope that he will

then write at considerably greater length".

Shirley Baker and the King of Tonga was reviewed for *The Australian* by Olaf Ruhen, who wrote that Dr. Rutherford's book was important, not only in Tonga, not only throughout the Methodist Creed, but everywhere, teaching the lesson that determination is just about the only quality needed to sheet home a victory.

#### GIVE-WAY RULES

Mr. B.S. Heaton, Senior Lecturer in Civil Engineering, has kindly permitted publication of the following personal comments on the merits of the Give-way to the Right and Priority Road driving rules, together with the views of certain university staff members on the two systems.

I recently conducted an opinion poll on driving rules among staff at the university. The questionnaire was designed by Dr. Daphne Keats and myself. It should not be construed that the author sought only opinions of highly educated people; the university was merely a readily-tapped source of motorists with experience of overseas systems different than those applying in Australia. A parallel poll by an M.Eng.Sc. student, Mr. R.L. Narayanan, was conducted among a sample of 110 employees of B.H.P. Newcastle to check if any bias existed between university staff with no overseas experience and similarly experienced B.H.P. employees. The two poll results displayed no significant variation.

The number of University staff who completed the poll questionnaire was 146 with driving experience distributed as follows: — 25% had driven more than 10,000 miles in more than one country other than Australia; 16% had driven more than 10,000 in one country other than Australia or had driven between 1,000 and 10,000 miles in more than one country other than Australia and 59% had little or no experience outside Australia.

The results of the poll displayed some interesting features. The more significant of these are: —

Only 4% of all drivers considered that the present Australian situation would NOT be improved by placing YIELD signs on the side roads at ALL major highway and trunk road intersections.

As regards the drivers' overall preferences, Only 11% preferred to blanket Give-Way to Right as it is applied in Australia.

44% preferred the British, every intersection marked, Give-Way to Major Road rule.

41% preferred a Priority Road scheme in conjunction with Give-Way to Right.

4% preferred some other rule.

A very significant point however, is that, of the group of drivers with the greater experience overseas,

None preferred the blanket Give-Way to Right.

62% preferred the every intersection marked Give-Way to Major Road scheme.

32% preferred a Priority Road scheme in conjunction with Give-Way to Right.

These figures are startling. They indicate that a substantial majority of the populace is dissatisfied with the present rule and would be receptive to change. The section of the popul-

ation most dissatisfied is that which has had driving experience overseas and observed traffic behaviour under different rules to ours.

The questionnaire also attempted to obtain reasons for a driver's preference. Conclusions reached from the answers are presented below:

66% of the sample thought that regardless of the Give-Way Rule there is a "natural" expectancy that vehicles on a minor road will yield priority to traffic on a major road.

84% of the sample thought that drivers under a rule Give-Way to Right, when entering a major road intersection from a minor road on the right frequently must adopt an aggressive attitude to obtain their legal priority.

70% of the sample thought that the Give-Way rule at road junctions had a bearing on general driver behaviour.

The author considers that contained in the above three statistics could be the crux of a reason for the high fatality rate on Australian roads. Herein may lie the answer to the competitiveness and belligerence of the Australian driver.

Of the drivers experienced with road travel overseas, approximately 90% thought that driving with a rule Give-Way to Major Road, travel was more comfortable, less fatiguing and collisions were less likely to occur nose-to-tail or involving vehicles at a junction of a major road with a minor road. Surprisingly 77% thought Give-Way to Major Road was superior for a rapid assessment of priority, perhaps because the priority decision is made before the junction not at it.

One of the standard criticisms of a Priority Road scheme is that drivers on that priority road become inattentive and liable to have a collision if an unusual situation occurs. The opinion of the experienced drivers in the poll sample largely (73%) denied this and claimed that drivers could focus ahead since they did not need to constantly monitor roads entering on the right, and thus they were less liable to have a collision with a vehicle or a pedestrian suddenly appearing on the road.

To the author the overall dissatisfaction of present road users with the Give-Way to the Right rule has been amply demonstrated. What should be aimed for, in the opinion of drivers experienced with travel overseas, where different road rules, after, is the introduction of the British, every intersection marked, Give-Way to Major Road scheme. Perhaps this should be introduced gradually, starting with the placing of YIELD signs where all minor roads intersect Major Arterial routes.

There has been considerable newspaper comment on this topic recently, leading up to a meeting of the Transport Advisory Council in February, 1972. The Council considered a report on Priority Roads and Give-Way signs but failed to agree on a uniform approach to changes in the Give-Way-to-Right rule. The meeting decided that the States should make their own decision.

Since then the South Australian Transport Minister has stated that his Government will commence trials of Priority Roads in Adelaide. The N.S.W. Transport Minister has announced a trial Priority route along Victoria Road, Ryde, Sydney.

## UNIVERSITY NEWS

**Dr. K.H. White**, Director of Pathology, Mater Misericordiae Hospital, Waratah, was elected to fill a vacancy on the Council of the University and took his seat on 14th January, 1972.

The vacancy was caused by the death of Dr. E.J. Egan, who was one of five members of the Council elected by Convocation of the University.

Dr. White, who holds the degree of Bachelor of Arts in this University, will hold office on the Council for the remainder of Dr. Egan's term (until 30th June this year). He defeated three other candidates in an election in which all members of Convocation were eligible to vote.

**Mr. R. McL. Robinson**, Lecturer in Philosophy, has also been elected to the Council. Mr. Robinson was elected by members of the academic staff other than professors to succeed Dr. N. Rutherford, who is on study leave.

The Council of the University appointed **Professor K.W. Robinson** Head of the Department of Geography for two years beginning on 1st January, 1972. The Council was informed that the former head, **Professor A.D. Tweedie**, planned to take sabbatical leave this year and had requested that Professor Robinson be appointed.

The Dean of the Faculty of Arts and Head of the Department of Philosophy, **Professor A.M. Ritchie**, is in the United States of America on overseas study leave. His itinerary includes visits to the University of Texas, where he will work with postgraduate students on Cartesian Philosophy, and universities on the East Coast. Professor Ritchie expects to return in May.

**Professor K.R. Dutton**, Head of the Department of French, is serving as Acting Dean of the Faculty of Arts and **Dr. W. Doniela** is Acting Head of the Department of Philosophy.

**Dr. G.C. Jones**, a student of the former Newcastle University College who holds the degree of Bachelor of Arts in the University of N.S.W., with first class honours, has been appointed Professor of French and Head of the Department of Romance Languages in the University of New England. Dr. Jones is a Master of Arts in the University of Melbourne and a Doctor of the University of Frenoble, France. Before receiving his appointment to the University of New England, he was Lecturer in the University of Newcastle (June, 1966 to December, 1967) and Senior Lecturer in the University of Western Australia.

The second annual report of the Directors of TUNRA (the University of Newcastle Research Associates Ltd.) disclosed that the company earned a profit of \$9,564 between 1st July, 1970, and 30th June, 1971. Twenty-four research projects were undertaken in the year.

Eight students have been chosen to receive **University Medals** as a result of distinguished undergraduate performances culminating in the 1971 examinations. They are Anne M. Vogelzang and Elizabeth A. Cousins (Mathematics), James C. Docherty (History), Evan P. Arthur (Classics), Ho Gien Tou (Industrial Engineering), Foo Say Wei (Electrical Engineering), Annette W. Cook (German) and Julie L. Marshall (Psychology).



**Mr. P. Cornish**, a 1962 B.A. graduate, is lecturing in English at the University of Kalmar in Sweden. Previously a teacher at Christ's Hospital School, Sussex, Mr. Cornish will complete a year's term of service next August when he plans to return to England.

At the annual English Society Dinner on 29th November, the **Talbot Prize**, donated by Dr. Norman Talbot for the best poem with a moral to inculcate, was awarded to Mr. P.L. Kavanagh, Lecturer in English, whose wife, Keryl, a Secretary in the Department of Psychology, presented the poem vocally without musical accompaniment.

Five students of the university will be awarded **Blues** for their performances in sport during 1971. They are Darryl Lang (Badminton), Dick De Tozer and Robert Williamson (Rugby), Peter Dodd (Cricket) and John Hawkins (Athletics). The University Council approved the recommendation made by the Blues Association that the students receive Blues.

**Frank Brelec** and **Robert Baker**, of University Cricket Club, and the Amenities Officer, **Mr. H. Bradford**, toured New Zealand with the Combined Australian Universities Cricket team in January and February. Mr. Bradford was Manager.

**Mr. Neil Hatherly** has taken up duties as Acting Secretary of the University's Blues Association succeeding Mr. B.F. Curran, who has begun duties as Senior Classics Master at Canberra Grammar School.

*A course for athletics (with straits), together with a cricket and football field, will be provided at No. 2 Oval, now under way at the University.*

## MATHS SUMMER SCHOOL

About 200 High School students enrolled for the **Mathematics Summer School** held at the University from January 25 to 27. It was the fourth staged by Newcastle Mathematics Association; students from high schools in Newcastle and the Hunter Valley, including Gloucester, Taree, Muswellbrook and Wingham High Schools, attended. Accommodation in Newcastle was arranged for students coming from centres a long way from Newcastle.

Professor C.S. Davis, Senior Professor of Mathematics, University of Queensland, and Mr. D. Moalem, well-known author of school text books and Mathematics Master at Fort Street Boys' High School, were Visiting Lecturers for the school. Dr. W.D. Wallis, Dr. J. Wallis and Professor E. Parker, of the University's Staff, also lectured.

About 20 teachers, lecturers and senior students acted as tutors. Mr. K.F. Collis, of the Department of Education at the University of Newcastle, was Director of the Summer School and Mr. B. Donegan of Newcastle Boys' High School, was Organiser.

Please advise

The Secretary, University of Newcastle, 2308, of

\* Your change of address

\* Names and addresses of other graduates who are not on the mailing list for "THE GAZETTE"

\* Changes in marital status