



MONASH REPORTER

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CONTENTS

The Faculty of Science	1
Student Revolt	6
Exhibition of Paintings	12
Professor R. Street: Report on Study Leave	16
University Heads Visit Campus	21
Dr. Albert Leonard Jones	22
Staff Appointments	24
Departmental News	26
Fellowships and Scholarships	32

THE FACULTY OF SCIENCE

By Professor K. C. Westfold, Dean of the Faculty.

Research is the lifeblood of science and when the university began its operations in 1961, the founding members of the original science departments took care to see that programmes of research were started under the direction of the staff first appointed. They chose to accord some priority to this aspect of a university's activity in spite of the knowledge that, in the first year of a department's existence, the whole of their time might excusably have been employed in preparing the new courses and equipping the teaching laboratories in advance of the arrival of the vast numbers of undergraduates who were to follow.



This choice was a consequence of the dictum that teaching and research are not two essentially different activities. For, at a university, research is always associated with the training of students, newly graduated with their first degrees. By taking part in research under the direction of staff members, graduate students acquire skills and attitudes which will fit them to contribute at a high level to the education and development of the nation. At the same time staff in their lectures are better able to enliven the subject by reference to current developments at the frontiers of knowledge, to which they themselves may be making significant contributions.

The interest and morale of undergraduates is considerably heightened when they come to realise that research of high quality is being carried out in the departments where they are being taught.

The departments of the faculty that began teaching in 1961 were Chemistry, Mathematics, Physics, and Zoology and Comparative Physiology. The original academic staff numbered 25, teaching some 157 first year students and 11 graduate students. Since then, new departments of Botany and Psychology have been established, full-time academic

staff members exceed 140, including 17 professors, the number of equivalent full-time undergraduates taught has risen to over 1700, and the number of graduate students to over 200. Recent appointments include professors of Genetics and Information Science, whose subjects can be expected to attract great interest in the next few years.

Perhaps some comments are necessary on the location of Mathematics and Psychology in the faculty of Science, the possibly more familiar location being in an Arts faculty. The chief reasons for this are, in the first case, that Mathematics, which has always been basic to the physical sciences, is becoming increasingly important in the biological sciences, now that models capable of description in mathematical terms are being devised and more meaningful and precise measurements are being made. It is also a live subject in its own right, with many rapidly developing areas of research. Although based in Science, Mathematics is also offered up to the fourth-year honours level in Arts, and special courses are provided in the faculty of Engineering, and, for those of an econometric turn of mind, in the faculty of Economics and Politics.

In the second case, it is now more generally recognized that Psychology has come of age by adopting the methods and concepts of a biological science proper. This is not to write down its importance in the social sciences. At Monash the interest and emphasis is on the fundamental biological aspects, although the needs of students in the faculty of Arts are met by offering a minor sequence of courses at the first and second-year levels. Appropriate courses are also provided for third-year engineering and medical students.

It will be seen that the location of a department in the faculty of Science does not represent any barrier to its teaching in other faculties where its subject is in demand. In the same way the departments of Biochemistry, Physiology, and Microbiology in Medicine have as their major commitment the teaching of science students, although they were set up originally to meet the requirements of the body that accredits the medical graduates of the British Commonwealth, the General Medical Council.

The ready crossing of interdepartmental and interfaculty barriers at Monash is seen at its most fruitful in the research areas. Thus, for example, the departments of

Chemistry and Biochemistry cooperate in a project aimed at isolating the chemically reactive products of tobacco smoke in order to study their possible association with the induction of cancer. The departments of Pathology in Medicine and Chemistry have developed a new immunoradioactive approach to the treatment of cancer and other diseases. The aim of this work is to prepare antibodies to cancer cells, which are then made radioactive and injected into the bloodstream, where they rapidly seek out and attack cancer cells. Likewise, members of the faculty of Engineering cooperate with the department of Biochemistry in a project aimed at understanding the mechanical properties of connective tissue, and electrical engineers are jointly engaged with members of the department of Physiology on problems of nerve and brain function.

There has also been set up a group of staff members of the departments of Mathematics and Mechanical Engineering centred on the new Geophysical Fluid Dynamics Laboratory. The interests of this group lie primarily in applications of fluid dynamics to meteorology and oceanography. Already the principal centre of meteorological activity in Australia, with the Commonwealth Bureau of Meteorology, the CSIRO Division of Meteorological Research, and the University of Melbourne department of Meteorology in the area, Melbourne has recently become a centre for handling data for the World Weather Watch programme and the Antarctic programme. This group is also associated with the larger Monash University Marine Sciences Group, whose interests range from the fluid dynamics of the air and water, through climatology and oceanography, to the chemistry, biochemistry, and biology of sea animals. The need to study both the physical and biological oceanography of the Australian waters has been stressed in a recent survey paper prepared by Professor Rainer Radok of Flinders University. At present strenuous efforts are being made to obtain support in setting up a Marine Station near Melbourne. To Australia's shame there is no station between Sydney and Perth to study what is one of the most interesting coastlines in the world, where the rich waters of the Southern Ocean meet the Australian land mass, giving rise to a unique and fascinating community of plants and animals. Though less famous, this coast line is certainly of greater importance biologically than the spectacular Barrier Reef off the coast of North Queensland.

There has been no space to mention the important research

projects that are being prosecuted wholly within each department. Many of these are supported by bodies such as the Australian Research Grants Committee, the Reserve Bank (through its Rural Credits Development Fund), the Wheat Industry Research Council, and the Australian Meat Research Committee, as well as by individual industrial firms. Individual staff members are also frequently consulted on problems that arise in industry.

The fact that research is being actively pursued in the departments is reflected in the science curriculum. At Monash we do not regard the curriculum, once instituted, as sacrosanct. With new staff joining us year by year, with all the staff associated with research to a greater or lesser degree, there is a continual review going on of the topics offered and the manner of presentation, so that a student's course may be a fit preparation for any of the tasks he will be expected to undertake on graduation. In some cases this has involved the writing of special textbooks and laboratory manuals. In particular, Monash organic chemists have recently produced the first Australian programmed texts at university and matriculation level. Teaching films have been devised and television demonstrations are utilized where they are appropriate.

At the same time staff members have been active in current revisions of the school syllabuses in biology, chemistry, mathematics, and physics, and have taken the initiative in providing training courses of lectures, seminars, and laboratory classes for teachers. These serve the purposes both of acquainting teachers with the new material and of providing an opportunity for hammering out the ethos and approach to be adopted in teaching its various aspects. Staff in all these departments have collaborated in the writing of textbooks, manuals, and supplementary material. The mathematics texts are prepared under the auspices of the Monash-inspired School Mathematics Research Foundation, which was set up, in the light of the world-wide introduction of syllabuses of "new" mathematics, in order to determine what mathematical knowledge is needed in the contemporary situation, and how this can be taught in the context of the existing human and material resources of our schools. Members of the department of Physics have been responsible for two of the television series in the ABC programme University of the Air.

The Monash Computer Centre, with its versatile CDC 3200

configuration and expert staff, besides providing essential computing support to the research activities of the academic departments and the administration data processing, undertakes specialized work for outside bodies such as the Bureau of Mineral Resources, the Victorian Universities and Schools Examinations Board, and the Victorian Universities Admissions Committee. This outside work has helped to provide finance for expanding the available facilities, but not at a rate sufficient to prevent saturation use in 1968. The Centre's staff are responsible for programming courses for undergraduates, research students, and staff of most faculties, and also offer special courses which are open to outside professional users of computers.

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AMERICAN BOOK GIFT

The United States Embassy in Canberra has given about 2,000 books to the University.

The books were given following a re-organisation of the United States Information Service library in Sydney. Books have also been given to several other Australian institutions.

Another valuable gift of books to Monash has been made by Sir Douglas Menzies. He has presented the Faculty of Law Library with 152 volumes of the Revised Reports. These are reports of a considerable selection of cases heard in the English Courts between the years 1720 and 1860.

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MONASH UNIVERSITY ASSOCIATION

The Monash University Association has planned two visits to Victorian country areas in the next few months.

On October 3, the Deputy Chancellor, Sir Michael Chamberlin, will speak about the University at Corio. From November 7 - 9, the Vice-Chancellor, Dr. J. A. L. Matheson, will lead a University team to East Gippsland. Dr. Matheson will speak at Sale.

The work in the country areas will continue next year. Ballarat, Shepparton and Horsham are on the visiting list.

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STUDENT REVOLT

The following sermon was preached by Rev. L. Farquhar Gunn, M.B.E., M.A., B.D. at St. Andrew's Presbyterian Church, Gardiner, on Sunday, July 27, 1968.

I had prepared another sermon for you this morning but Thursday evening's riot compelled me to change what I had planned and say, what I feel has to be said, concerning the violence that has come to us in Australia by way of the protest movement and in particular the student revolt - the student revolt about which we have heard so much overseas and which for a time paralysed France.

And one thing needs to be said at the outset, and said forcibly, that if anyone is to blame for the student situation, then the press, radio and television must accept a major share of blame. For far too long now the press has seized upon incidents that have taken place in the student world and blown them for the purpose of sensationalistic reporting, out of all proportion to what they deserve or their real significance. And it is both dishonest and disgraceful for the Press, and one section of it here in Melbourne in particular, to single out Monash University. It is significant for example, that whereas anything off-beat done by a small group of students at Monash is given blazing headlines, TV coverage and radio sensationalism, the most important event that has happened anywhere in the university world, namely the recent opening of the Monash Religious Centre, which has the full support of Council, Vice-Chancellor, staff and students, was given less than a couple of inches in an obscure part of Monday's paper. Yet this centre is unique in Australia and probably in the university world as a whole. It is significant that no publicity was given at all to the outstanding contribution made by Monash University students to ABSCOL, that nothing is heard of the fact that membership of religious clubs is much higher than membership of political clubs - though personally I think this is not good. It is significant that we hear little in the Press about student volunteers who at great personal sacrifice GIVE themselves, their time and talents to serve undeveloped countries; but the moment anything outre concerning students anywhere happens, the Press is there sensationally putting its own destructive construction on events to the detriment of the university, its staff and students, creating the image of the student as an off-beat rebel against all authority and respecter of no one. The TV

Camera always fastens on to the bearded, hippily dressed, long-haired student who is but an extremely small proportion of the thousands of students attending our Universities.

Now, what is a university? Is it simply a degree factory? Unfortunately this is now what so many people in the community regard it. You go to university in order to get a degree which qualifies you for a better job with a larger salary and so ensure a more comfortable standard of living. It is true, of course, that economic necessity tends to make our universities degree factories, with the emphasis today upon the necessity of tertiary education if you are to get anywhere in our modern world, with the quota system and the pressure that is on the university to produce practical results, and give the taxpayer an adequate return for his money. But a university is surely a place of education, of learning, where those who attend are taught to THINK for themselves, to question, to seek the right answers to such questions. And if a student is to get the best out of the university, then he must enter fully into its whole life. A student may go out with any number of degrees and yet be quite uneducated. The trouble is that not enough students enter fully into the life of the university as a whole and the result is that because of this, the way-out fringe have too easy opportunity to dominate. At the same time let us be fair and acknowledge that the proportion of students who do take part in university life is a much higher proportion than that of people living in any ordinary community who really become involved in the affairs of that community.

But I believe that the present student unrest is not due primarily to what is taught in the university. It is rather part of two things. One is the widening of the generation gap and the other the fact that throughout the world, in the present era of rapid change, with the shrinking of all boundaries so that what happens in one part of the world is known to the rest of the world in a matter of minutes, young people in particular (though, thank God, this is not just confined to young people) have become sick of the pomposity of the established order which is content to wallow in its material affluence and either couldn't care less about the very real problems facing mankind today or sees protest of any kind as a threat to its comfortable existence, a threat which is glibly labelled as communist inspired or away out left, and must be put down at all costs.

Now there has always been, and there always will be a generation gap. It is simply one of the facts of life and need not be a problem. It only becomes a problem when we make it such. It is no good our smugly saying there was no such gap in our day. There was. If you and I, who are older, are really honest this morning, we shall acknowledge there were times in our youth when we thought our parents were not "with it", when we chafed under restrictions imposed upon us and questioned authority. Our protest was not vocal because there was in us an innate respect for authority and age. But this respect has gone.

I do not propose to go into reasons for its going, except to say that two world wars, the whole convulsive changes of the last few years and especially Vietnam have made people think seriously about and question the authority of the established order which seeks to maintain its position by way of threats of force, of deliberate misrepresentation passed off as "the credibility gap" and outworn cliches and propaganda which no longer hold water as far as intelligent thinking people are concerned and which impatient, frustrated, idealistic young people will no longer calmly accept just because authority says it is good for them.

And can you wonder at young people conscripted at 19, without a vote, forced to serve in a war that even the most hawkish are now finding hard to defend, questioning governmental authority and not being prepared to accept the dubious propaganda that is fed out to them. The only protest they can make is by way of vocal protest and dissent. Were our young people given the vote at 18 every political party would take notice of them.

Unfortunately, when such dissent and protest take place the young people themselves are open to manipulation by the rabble-rouser and the communist agent sent particularly to exploit the situation. This, I believe is what happened on Thursday night. I know that one University Student Christian Movement branch agreed to take part in what they were assured was to be a peaceful demonstration and it set out as such; but it did not end up this way. This is always the danger and it seems to me that students themselves must be more aware of this danger and cease being so naive as not to recognise when they are being manipulated and themselves watch out for the rabble-rouser and communist exploiter. The police have their duty to preserve order and protect public property, but they are only human and when you

have the public image, created by the press of the student - and all students come under this - of the student as a rat bag, then it is understandable that the police should have no patience with them and violence results on both sides.

Much trouble could be avoided if the rabble-rouser and communist exploiter could be singled out and dealt with and students must, if they are going to get anywhere, be active in guarding against such end in co-operating with the authorities in dealing with such.

II.

The student protest is IMPORTANT. It is the dissenter today, whether student or not, who is showing real concern about the important issues confronting our community and the world at large and asking questions that must be asked and seeking answers that must be found if we are to survive. It is the student and dissenter who are taking seriously the question Jesus took so seriously, "Who is my neighbour?" Unfortunately, the majority of Australians in their comfortable suburban homes and secure positions couldn't care less, or simply don't want to be disturbed.

And there are two courses open to us. One is to seek to close the generation gap, through those of us who are older, recognising that the revolt of youth has substance in it and cannot be ignored. Not seeking to close it by ourselves trying to get alongside youth by lowering any of our standards, or by growing beards and wearing our hair long and dressing as they do, and enduring long hours listening to the Stones; but by joining with them in their concern over the issues they raise and LISTENING to what they have to say to us and trying to say to them, as meaningfully as we can, what we can say out of the experience of age. Listen to them as they protest against our deification of material affluence. Listen to their protest against conscription and war and the erosion of civil liberty. Listen to them as they protest against the impersonalisation of education and share their concern for the undeveloped countries of the world, the homeless and under-fed, their plea for the personalisation of concern for our neighbour.

I believe with my whole heart that if we would only listen and share their concern they would listen to us, for we have much to say to them and much to give them, as together we too question and think and plan and become active in con-

cern. Not confrontation, but exchange is needed.

The alternative is to continue writing youth off; as ungrateful rat bags always protesting against something, who need to be put in their place. The alternative is to seek to quell dissent by force, retreating as France has done into backward conservatism determined to maintain the status quo at all cost, or as Germany did after World War I, and as West Germany seems like to do again, into totalitarianism with the suppression of all dissent which leads only to stagnation and death.

III.

It is here that the Church can and must do much. The Church must take the lead in dialogue with dissent. The Church must encourage Christian students to become more active in university life as a whole. I mentioned I did not think it a good thing that religious clubs should have a greater membership than political clubs in the university. It is certainly not a good thing for it is altogether too easy for the Christian student to retreat into his religious club and be content with airy discussion and DO NOTHING. The religious club, like the Church, should be rather the stimulus to great activity in the university community, particularly in concern and action over the issues that students face today and are concerned about and are seeking to do something about. It is for the Church to equip its students to take a worthwhile active part in university life and concern.

Too readily we dismiss youth. Because our P.F.A. does not do things the way we did them, we become critical and single out the off-beat things they do, forgetting the fine things they do. We have here in this parish a splendid band of young people who are stronger now in numbers and concern than they have ever been. Their programme is certainly different from the programme of the past, their way of doing things different; but their contribution is as great as in the past. It was not the adult members of this congregation, although I am glad to say some of you did help, who made it possible for St. Andrew's to do what it did for AUSTCARE; but the members of our P.F.A. Were it not for our P.F.A. we would have no evening service. It is the P.F.A. who always respond when anything in the way of extra service is asked of them.

I cannot offer a blue print for closing the generation gap or for dialogue; but something must be done and can be done if we are willing to take the whole matter seriously and are prepared to work hard in finding a way out.

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SPACE CONSULTANT FOR MONASH

An engineer who is a consultant to America's Space Technology Laboratories will come to the University next year.

He is Professor Yuan-Cheng B. Fung, Professor of Bio-Engineering and Applied Mechanics at the University of California, San Diego.

The University Council has decided to confer the title of Visiting Professor on him.

Professor Fung is also a consultant to a number of leading U.S. aviation firms - Aerospace, Boeing, Douglas, Lockheed, Martin Company and North American Aviation.

He is regarded as a world leader in the fields of biomechanics and aeroelasticity.

He took out his Master of Science degree at Central University, Chungking, in 1943. He became a Doctor of Philosophy at the California Institute of Technology in 1948.

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THE REPORTER

Copy for the October issue will close on September 20, and for the November issue on October 20. Have post-graduate students any points of view on matters of general interest to submit for publication? Copy should be addressed to the Editor, Monash Reporter, Vice-Chancellor's Office.

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EXHIBITION OF PAINTINGS

The following critique of an exhibition of selected paintings from the Monash collection, now hanging on the first floor of the Union, was written by Patrick McCaughey, a member of the Art Advisory Committee:

The present selection of paintings from the University collection illustrates some of the more important developments in the last decade of Australian art. During this period modern Australian painting established its popularity inside Australia and stretched its first feelers into the international art world.

No single group was more important to this period than the Melbourne figurative painters who banded together in 1959 under the title of the Antipodeans. They issued a notorious manifesto, pledging themselves to a defence of the figurative image against the onslaught of abstraction, and held a single exhibition in 1959. Their art was strongly humanist in orientation and notably Australian in feeling and accent. Indeed part of the manifesto stressed the role of the artist as the image maker for the myths by which a society achieves its own sense of identity. Sydney Nolan's Ned Kelly paintings, the myth of the outlaw, cut off from society but identified with the bush and the landscape, was the most signal example of this mythic consciousness in Australian figurative painting.

Monash is fortunate to own representative works by four of the Antipodeans: Charles Blackman, David Boyd, John Perceval and Clifton Pugh. Other members of the group were John Brack, Robert Dickerson and Arthur Boyd. Professor Bernard Smith, now Power Professor of Contemporary Art at Sydney University, was the chairman of the group and largely responsible for the drafting of the manifesto.

The four paintings represent different strains in the Antipodean movement. David Boyd's anguished image demonstrates clearly enough the expressionist element that ran through the figurative painting in Australia and found its finest achievement in the work of his brother Arthur Boyd. Clifton Pugh's use of a specifically Australian setting for his Legend shows the determination of the group to seek more than descriptive values from the Australian landscape. John Perceval's vigorous painterly style in the Artist's Studio reflects both the affirmative note the group worked

in and also their dependence on the local and particular environment to furnish them with their themes. Charles Blackman's *Face Amongst Flowers*, the earliest painting of the group, reveals most directly the sympathetic humanism that underlay the whole operation.

The Antipodeans have come closest in recent years to forming a local, indigenous school of painters. It wasn't simply that they were figurative artists but that they shared broadly similar views of the world around them. This can be gauged quite simply by contrasting the four Antipodean paintings with Donald Laycock's massive work, *Two Heads*. Laycock worked in Melbourne at much the same time as the Antipodeans. He held his first exhibition in conjunction with Clifton Pugh and two other painters. But Laycock's interests are more heroic and monumental than the Antipodeans' version of humanism. Later he was to move from this series of large heads to a bold abstract-expressionism.

Laycock became one of the more important abstract artists working in Melbourne during the sixties and in this he was something of a maverick. For it has become an erroneous platitude in the discussion of modern Australian painting that Sydney was the home of abstract art and Melbourne maintained a stoutly figurative tradition. Certainly the Antipodean movement was largely initiated in reaction to the rapid development and the critical success of abstraction in Sydney. The Monash collection has two fine examples of Sydney abstract painters of this period: Elwyn Lynn's dominating essay in gold texturology, *Borderland*, and Henry Salkauskas' smaller water-colour. In both cases, however, we can see that their type of abstraction did not exclude references to landscape and the external world. They were not nearly so soul-less as the Antipodeans made them out to be.

Indeed landscape has been a continuing interest in Australian painting. The first known oil painting produced in Australia was naturally enough a landscape. The new land invited commentary, description and interpretation as a brave new world. Two markedly individual landscapists are included in the Monash collection. Interestingly enough both choose the more romantic landscape of Queensland, in very different moods, which has not been the staple diet of Australian landscapist. Normally the bush, the outback and the southern rural areas have provided Australia with its landscape subjects. Henri Bastin is probably the finest

of Australian "primitive" painters. Unschooled and untaught in any way, his pearly colours and radical simplification of forms give his Queensland Landscape a brilliance and an exoticism that remains exceptional in Australian landscape art. Sam Fullbrook who also works in Queensland goes back with the aid of Matisse to a more conventional type of "atmospheric" landscape. The dry dusty tones, the blurred forms give the impressionist orientated landscape a new vigour as the wind drives the landscape into a blown and hectic mass.

The interior of Australia has exercised the imaginations of painters, most notably the early (and good) Russel Drysdale and Sidney Nolan. William Ferguson's painting, In the Dream Time, in the Monash collection, uses both the burnt red landscape and the sense of an aboriginal presence in that landscape. The totemic image that dominates over the landscape clearly suggests the symbolic, ritualistic figures found in aboriginal wall paintings. It is both placatory and potent.

The land itself has provided much for Australian artists but much from outside Australia has enriched and fostered work of more than parochial or national interest. Just before the last war Ludwig Hirschfeld Mack, one of Walter Gropius' closest associates at the Bauhaus, came to Australia. Originally he came simply as an internee. He later was "discovered" and taught for nearly twenty years at Geelong Grammar School. The two monotypes of his in the Monash collection show his close affinities to Klee but it is clearly an affinity, not a derivation. Similarly Edwin Tanner's Moral Philosophers springs from an intellectual awareness rather than a local nurturing. A professionally trained engineer, widely read in modern philosophy, Tanner belongs to no group or movement in Australian painting. His wry, joking work has a playfulness that is quite alien to the prevailing sturm and drang of Australian art.

Just as Hirschfeld Mack fed into Australian art new ideas and new possibilities, so the younger painters at work in Australia today are searching for an aesthetic not based on a regional, indigenous bias. Monash owns work by three younger Melbourne painters of great possibilities who owe debts to the preceding generation of Antipodeans. Paul Partos' Mer Black and Grey, and Robert Jacks' Mr. Bloom with his stick Gently Vexed take their cue from European art, Dubuffet and Braneusi respectively, rather than attempting

to develop an art of notably Australian characteristics. In the main library, one of Monash's most recent purchases a white on white painting by Robert Hunter shows a newer emphasis on the conceptual basis of painting than Australian art has ever had before. Here the impact of post-war American art is having a profound effect on the new direction in Australian painting.

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BOOKS FOR SALE

The Monash representative on the Women of the University Fund has the following books for sale in aid of the Fund's charities. They are all in good condition, with hard covers, and anyone interested should telephone Nett McLaren at 25.3424.

Cuvier's Animal Kingdom. Published 1834. Illus.	\$1.50
With Nansen in the North, by Lt. Johansen; A Record of the "Fram" Expedition. Published 1899. Illus.	\$1.50
Edward Wilson of the Antarctic, by Geo. Seaver. Published 1938. Illus.	\$1.00
The Collected Papers of Hugh Trumble, Surgeon at the Alfred Hospital, Ed. Cox & Lawson. Published 1957. Illus.	\$1.00
Human Origins by S. Laing. Published 1892. Illus.	\$1.00
The Hebrew Review, Ed. M.J. Raphall. Jan. - July 1836	\$1.00
A Shorter History of Science, by Sir Wm. C. Dampier. Published 1944. Illus.	\$0.50
Studies of Great Composers, by Sir Hubert Parry. Published 1900.	\$0.50
An Introduction to Social Anthropology Vol.I., by R. Piddington. Published 1950. Illus.	\$0.50

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PROFESSOR R. STREET: REPORT ON STUDY LEAVE

The following report was written by Professor R. Street, Chairman of the Department of Physics, on his study leave from February, 1967, to January, 1968.

On Friday, 10th February, 1967, my wife, my son Nicholas and I left Melbourne, by air, and travelled to London, with stops in Perth, Singapore, Delhi and Rome. We arrived on Saturday, 18th February, 1967, and were met at the airport by Professor N. Kurti who drove us to Oxford. There is no formal arrangement within the University for arranging housing for visitors, and accommodation in Oxford is difficult to obtain and is expensive. We were fortunate that Professor Bleaney, of the Clarendon Laboratory, had acquired a flat, the property of Trinity College, in Woodstock Road.

I had been invited to work in the Clarendon Laboratory, where I was provided with an office overlooking the parks and a place in the research laboratories of the Mullard Cryomagnetic Laboratory. This Laboratory is a relatively recent addition to the much older Clarendon Laboratory and was the gift of the Mullard Company to provide facilities for research at very low temperatures in those areas requiring large magnetic fields. The lowest temperatures ever achieved have been produced in this Laboratory and a central feature is a large direct current generator which provides power for a variety of water-cooled solenoids capable of producing continuous magnetic fields of high intensity in relatively large volumes.

A major effort of the Cryomagnetic Laboratory is the investigation of the origin of magnetism in solids by determination of the intense magnetic fields created at the nuclei in these solids. Experiments being carried out involve measurements on radioactive emissions from the nuclei when the temperature of the solid is maintained at a few thousandths of a degree above absolute zero. The problem I was able to work on using these techniques arose directly from experiments I have been concerned with at Monash - the magnetic properties of chromium. Part of the work involved the use of the cyclotron at Birmingham University, where I was given every assistance by Professor Fremlin, the Director of the Cyclotron Unit at Birmingham. As part of the same project, I was able to carry out some high magnetic field resistivity experiments at low temperatures. The results of the work I did in Oxford have now been published.

The Fellows of Brasenose College elected me to membership of the College. The Vice-Chancellor at the University conferred on me the degree of M.A. (Special) for which I was matriculated in the University of Oxford, a distinction denied me in 1939 owing to my repeated failure in Latin in Responsions.

On many occasions, my colleagues at the Laboratory invited me to dinner and other social occasions at their Colleges, and, in this way and from my association with Brasenose, I met a variety of men from the University and elsewhere. Inevitably, on these occasions and others, I heard a good deal about Governmental scientific policy from those directly involved, particularly as it affects the future of Research Establishments, Defence, the provision of expensive facilities for research in Physics and the role of scientific advisers to Government Departments.

I was made a member of the Sub-Faculty of Physics and listened to discussions on such familiar things as syllabuses, the purpose of laboratory work in undergraduate courses and the introduction of new combinations of subjects. Undergraduate teaching in Physics at Oxford is based very firmly on the College tutorial system. This imposes a very heavy demand on the tutors at times scattered throughout the teaching week. I naturally had a good deal of contact with the graduate students during my work in the Laboratory, and I acted as examiner for the D.Phil. degrees of two of them. I found that the performance, the attitudes and abilities of our graduate students are entirely similar to those of their counterparts I met in Oxford.

I was regularly invited to attend lectures at the Royal Society, at one of which I heard a talk by Professor Néel, of Grenoble, who is one of the immortals in magnetism. I also attended meetings of the Institute of Physics in London, and on one occasion lectured there.

It was very encouraging to find, on many occasions, that the work of the Physics Department at Monash was well-known and respected. There was a good deal of interest from individuals in the possibility of them spending study leave with us. It has been possible to arrange for Dr. R. J. Elliott, Reader in Physics who is an outstanding theoretician, and Dr. D. J. Roaf, a Lecturer in Physics, both from Oxford, to work here with us as part of their study leaves, and they will be arriving in August, 1968. Dr. J. H. Sanders, also

from Oxford, will be joining the Department for some months in 1969.

When I was in England I was invited to visit Universities in London, Bristol, Manchester, Sheffield, Nottingham and Southampton. I gave seminars on various aspects of my work in Solid State Physics. I also visited a number of other centres, including the Atomic Energy Research Establishment, Harwell, and the Atomic Weapons Research Establishment, Aldermaston.

I had been invited to visit the Ford Scientific Research Laboratory at Dearborn, Michigan, for an extended period during my study leave. In the event, I was able to spend about nine weeks there, beginning on 1st August, 1967, which coincided with the Detroit riots, the Ford Motor Company strike and the Michigan State Teachers' strike.

The Ford Scientific Research Laboratory is a remarkable institution, set up as a centre for "pure" research in Mathematics, Physics and Chemistry. In Physics, their interests are widely spread over such topics as Solid State Physics, problems in the theories of Gravitation and General Relativity and the properties of Liquid Helium. The facilities for scientific work are excellent and I was particularly impressed by the computer systems which are available. I was given an office with access to a teleprinter terminal of a time-shared computer system. I was given three code numbers, by which initial communication is established with the computer. The computer itself taught me to programme in its particular language, using direct typed communication between "tutor" and pupil. The influence of this particular computer facility in the Laboratory is impressive since it provides an immediate way of handling and treating data of all kinds. Laboratory management is particularly concerned that the system be fully used at all levels. As an example, a stored programme will provide information on optimum house mortgage payments.

During my stay at the Ford Laboratory, I collaborated with a group which included Drs. Overhauser and Arrott, working on theoretical and experimental problems in magnetically ordered systems. This I found to be a most stimulating experience. I worked on the Neutron Diffraction Spectrometer at the Phoenix Nuclear Reactor, which is the gift of the Ford Motor Company to the University at Ann Arbor, and I participated in another experimental project

on nuclear magnetic resonance in metals.

In September, I attended the International Congress on Magnetism, held in Boston and Cambridge, Massachusetts, which was the latest in a continuing series of Magnetism Conferences held previously in Germany, France, U.S.A., the United Kingdom and Japan. There were well over 1,300 participants, representing 25 Nations from all over the world, and, in all, 420 papers were refereed and presented and are now published in the Proceedings of the Congress. Special lectures were given by Van Vleck, J. C. Slater and others. A novel feature of the Congress for me was participation in a pre-Congress Press briefing session which in the event led to a large number of reports on the Congress being published in an informed way in the technical press of the U.S.A.. I was one of five scientists invited to take part in this activity, the others being B. Lax, Director of the National Magnet Laboratory, A. Clogston of Bell Telephone Laboratories, C. Bean of the General Electric Research Laboratories, and H. B. Callen of the University of Pennsylvania. The session began at 8.00 a.m., with breakfast at the Sheraton-Boston Hotel, and continued thereafter for about ten hours with fifty technical journalists in attendance. The format was for each scientist to introduce a particular area, I was asked to talk on "Significant Experiments in Magnetism," followed by general discussion and detailed questions.

I had been invited to contribute a paper on "Spin Density Wave Distributions in Chromium and Chromium Alloys," and was Chairman of a Session on Intermetallic Compounds. Before and during the Congress I refereed a number of contributed papers and had to discuss a number of my comments with the authors. As always in conferences of this kind, I felt I derived enormous benefit from both formal and informal contacts with old and new friends from all over the world.

I returned for a short time after the Conference to the Ford Scientific Laboratory, before returning to Oxford at the end of September for the beginning of the first University term. During this time I attended a number of post-graduate lecture courses, mainly only theoretical Solid State Physics.

Before leaving Australia I had been invited to work for some weeks with Dr. Wilkinson's neutron diffraction group at the Oak Ridge National Laboratory in Tennessee. My original plan was to fit this in by returning to Australia, via Oak Ridge, in December, 1967. However, I came to the end of the

year rather more tired than I expected and we decided to return to Australia by sea. Fortunately, we were able to obtain passages on the "Orcades" which left Southampton on 23rd December, 1967. We arrived back in Melbourne on 20th January, 1968, and we were most appreciative of the warmth and helpfulness of our reception.

This period of study leave gave me, for the first time in over twenty years of University teaching, an opportunity to devote my full efforts to learning and doing Physics again. I am very grateful for all the kindness and hospitality shown to me, both in the United Kingdom and in the U.S.A. particularly by the Ford Motor Company.

I wish to thank the Council most sincerely for making it possible for me to spend this time on study leave.

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CHAIR OF SPANISH

The University Council has approved the establishment of the first Chair of Spanish at Monash.

The teaching of Spanish was introduced at the University in 1966 with the appointment of a senior lecturer and a teaching fellow. That year a quota of 60 places was approved for Spanish I, and more students applied than could be enrolled.

Last year the staff was increased to four, the quota for Spanish I was increased to 120 and Spanish II was introduced as a subject for the pass degree. This year the staff remained at four, the quota for Spanish I was reduced to 70 and many students were unable to be enrolled for the subject.

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UNIVERSITY HEADS VISIT CAMPUS

More than 140 Executive Heads of Commonwealth universities visited the University on Tuesday, August 13. Many were accompanied by their wives.

About half of them arrived at Monash during the morning and stayed for lunch at Farrer Hall. The others arrived in the afternoon and had dinner at the Faculty Club in the Union. The visitors also toured La Trobe University during the day.

The Vice-Chancellor of Monash, Dr. J. A. L. Matheson, who is Chairman of the Association of Commonwealth Universities welcomed the guests at the dinner. The response was made by Dr. M. Ross, President of York University, Toronto. Senior members of the University staff joined the guests at lunch and dinner.

Students acted as guides during tours of the campus. The tour programme included the Religious Centre, Library, Alexander Theatre, David Derham School of Law, Robert Menzies School of Humanities, Medical School; the Zoology, Chemistry and Physics Departments, the Hargrave Library, Engineering School, the University Offices, and the Marshall Zoological Reserve.

The Executive Heads were in Melbourne before going on to Sydney for the Tenth Commonwealth Universities Congress.

On Sunday, August 25, two post-Congress tours visited Monash.

The academics, totalling about 100, had lunch in the Faculty Club with Monash hosts and student guides.

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DR. ALBERT LEONARD JONES

Dr. Albert Leonard Jones died on July 21st while on study leave with his family in England. Born in Newtown, Montgomeryshire, Wales, on May 14, 1924, he received his undergraduate and post graduate training at the University College of Wales, Aberystwyth (B.Sc. First Class Honours, 1946; Ph.D. 1949). A period of national service as assistant research chemist in ICI preceded his Ph.D. training under C. W. Davies. He then joined the Royal Military College of Science at Shrivenham as a Lecturer in the Department of Chemistry and Metallurgy, being promoted to Senior Lecturer in 1951 and to Principal Lecturer in 1955. In 1964 he moved to Australia to take up a Senior Lectureship in the Chemistry Department at Monash University.

On the research side his main interest was in the mechanisms of crystallization and dissolution of ionic crystals, an interest kindled in his Ph.D. studies of silver chloride. At Shrivenham, where research facilities in chemistry were very limited, he at first worked in collaboration with E. C. Baughan on problems relating to high-polymer solutions, but subsequently recommenced studies of crystal growth. At Monash he actively pursued these studies. The research group that he had built up at the time of his study leave had been producing some interesting new results that could lead to a substantial revision of currently held views of dissolution mechanisms but his untimely death may mean that this work will not be immediately exploited to the extent that it deserves.

Len Jones made many worthwhile contributions in his all-too-short period at Monash. Calling on his extensive experience of radiochemical techniques and facilities, he designed and supervised construction of a radiochemical laboratory now named after him, for the Chemistry Department. He willingly shouldered many administrative duties, such as member of the V.U.S.E.B. standing committee for Science, departmental representative on the Engineering Faculty Board, a member of the University Safety Committee and chairman of the departmental safety committee. He shared responsibility for the running of the first year laboratory and made substantial contributions to the planning of some recently-completed extensions to the department and some further extensions that have currently been requested.

Len's personal qualities were outstanding. He had the

highest standards of integrity and an attractive, warm personality that universally inspired respect and affection in his colleagues and students alike.

He leaves a widow, Joan, and three young children.

We at Monash, and particularly the Chemistry Department, will miss Len's loyalty, integrity and unfailing good humour. He was a man of rare distinction.

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DOCTOR OF MEDICINE

The University has awarded its first non-honorary degree of Doctor of Medicine. Dr. F. H. Hocking, who has been working in the Department of Medicine at the Monash Medical Centre, Prince Henry's Hospital, has been awarded the degree for a thesis on "Human Reactions to Extreme Environmental Stress".

His work began after interviews in Australia with victims of Nazi concentration camps. He concluded that everyone has a breaking point. For some, however, it can come many years after being exposed to stress.

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STAFF APPOINTMENTS

Dr. K.C. Ng as Special Lecturer in Electrical Engineering from approximately December 1968. Dr. Ng graduated B.Sc. in 1961 and Ph.D. in 1964 at the Queen's University, Belfast. His thesis was entitled "The Theory and Application of a Multi-Channel Adaptive System". For the past three years Dr. Ng has been Lecturer in Electrical Science at the University of Warwick. His research interest lie in the field of automatic control, in particular adaptive control systems, on - line identification and optimisation of multi-parameter control systems using digital techniques. He has had a number of articles published. Dr. Ng is aged 29 years and is single.

Dr. G.A. Ryan as Senior Lecturer in Social and Preventive Medicine from approximately December 1968. Dr. Ryan graduated M.B.B.S. in 1959 and M.D. in 1967 from the University of Adelaide, and M.P.H. in 1967 from the Harvard School of Public Health. His thesis topic for the degree of M.D. was "Injuries and Injury Production in Traffic Accidents in Metropolitan Adelaide". After working for two years in teaching hospitals in South Australia, Dr. Ryan held appointments at the University of Adelaide as Teaching Fellow in 1962 and then as Research Fellow, Traffic Accident Research Unit, Department of Pathology from 1962 to 1965. From 1966 to July 1968 Dr. Ryan held research appointments at the Guggenheim Centre for Aerospace Health and Safety, Harvard School of Public Health. At present Dr. Ryan is a temporary Senior Research Fellow in the Department of Transportation and Environmental Planning at the University of Birmingham. His main research interests are traffic accidents and injuries, and the provision of adequate emergency medical care as a method of reducing the mortality from accidents of all types. He has published several articles. Dr. Ryan is aged 33 years and is married, with one child.

Mr. L.E. Ward as Lecturer in Economics from approximately February 1969. Mr. Ward graduated B.Agr.Sc. in 1956 and B.A. in 1961 from the University of Western Australia, and M.Sc. in 1964 from the University of California, where he is now a candidate for the degree of Ph.D. From 1957 to 1963 Mr. Ward operated his own orchard at Kelmscott, Western Australia. From 1963 to 1964 he was a Research Assistant at the University of California, and from 1964 to 1966 a Research Fellow in the Department of Economics at Monash University. Since 1966 he has been working as a post-

graduate Research Economist at the University of California. His research interests include studies of supply and demand for agricultural commodities, spatical analysis and location theory, agricultural products in international trade, and the role of agricultural trade in national and regional development. Mr. Ward is aged 31 years and is married, with two children.

Dr. J.C. Saunders as Lecturer in Psychology from approximately January 1969. Dr. Saunders graduated B.A. in 1963 from the Ohio Wesleyan University, M.A. in 1965 from Connecticut College, and M.A. in 1967 and Ph.D. in 1968 from Princeton University. Between 1963 and 1967 Dr. Saunders held research appointments first at Connecticut College and then at Princeton University. His present appointment is that of Post Doctoral Fellow in the Auditory Research Laboratory at Princeton University. His research interests include animal sensory psychophysics, neurophysiology of attention and habituation, and electrophysiology of audition, and he has published two papers. Dr. Saunders is aged 27 years and is married.

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DEPARTMENTAL NEWS

ANTHROPOLOGY AND SOCIOLOGY

The biennial General Assembly of World University Service was held recently in Leysin, Switzerland, and Miss Robin Burns attended as the Australian delegate. More than 100 delegates from 41 countries and 11 international organisations met for a week to discuss the function of WUS in the changing university world and to determine a Programme of Action for university welfare projects for the next two years. The Assembly included a two-day symposium on "The International Role of the University" at which the keynote address was given by Dr. M.S. Adiseshiah, Deputy Director-General of UNESCO.

In Denmark, Miss Burns attended a seminar on the "Role of Students in Development". This seminar - the first of its kind to bring together representatives from every continent - discussed ways in which students can and should be involved in education, in material assistance and technical co-operation, and as a humanising factor in a world where the tragic division between the rich and the poor is rapidly attaining crisis proportions.

Miss Burns also visited university projects in Manila, and was the guest of the Indonesian Department of Education. She inspected university welfare projects in Djakarta, Bandung and Jogjakarta including the Indonesian-language printing press of the Gadjah Mada Foundation, the equipment for which was given by Australian WUS.

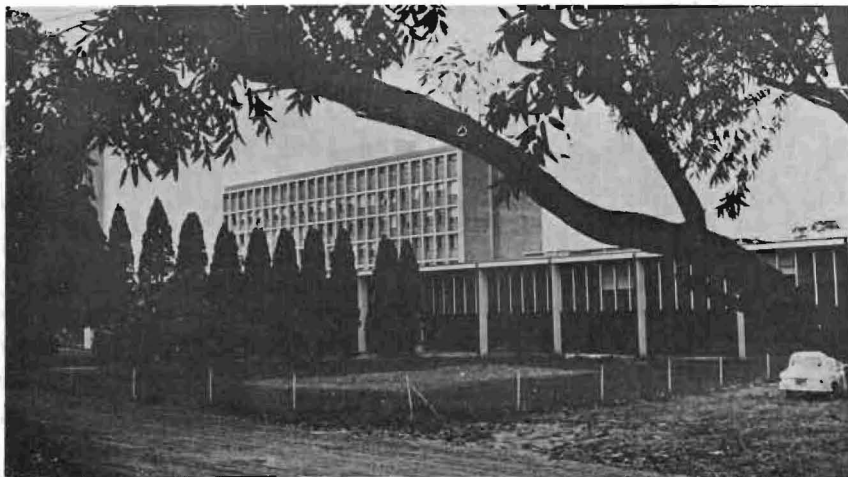
BOTANY

The popularity of our seminars has continued with a wide range of topics that were highly successful. During June the following were held :

- Mr. P.F. Lumley - In and Around the Sieve-Pore; "Slime" and Callose.
- Dr. A.A. Holland - Immunodiffusion Techniques Applied to the Soluble Proteins of the Fungus *Ophiobolus Graminis*.
- Mr. B.J. Macauley - "Carbon Dioxide & Fungal Growth".

We were visited by Professor T.C. Chambers and Dr. T.F. Neales, of the Melbourne University Botany School, during

July. Each gave seminars: "The Interface Between the Plant and the Aerial Environment: The Waxworks" was given by Professor Chambers, and "Aspects of the Physiology of Drought Resistance" by Dr. Neales.



This is the proposed site for the new Botany Building which is expected to be commenced early in the New Year. There is no truth in the rumour that it is going to dwarf the Menzies Building.

On the last day of July, Dr. P. R. Stewart of the Monash Biochemistry Department, spoke on "Biogenesis of Mitochondria".

One of the very early arrivals to the Department, Mr. Mike Kajtar, leaves this month for a six-week trip home to Hungary. Mike will be accompanied by his wife Olga. All in the Department wish them a happy journey.

CHEMICAL ENGINEERING

Professor O. E. Potter left in August for one year's study leave at Cambridge University. He is travelling via the United States where he will visit the University of California at Berkeley and the University of Michigan. He will then go to Montreal to attend a Chemical Engineering Conference from September 22 to 25.

EDUCATION

Professor Ronald Taft has recently been in Amsterdam, where he participated in the International Congress on Applied Psychology. Before his arrival in Amsterdam, he delivered a paper on "Learning to Live with Conflict" to the International Congress on Mental Health in London.

On August 30, Professor Peter Fensham left for the Soviet Union as part of a small group of Australian educators. He is spending three weeks in Russia at the invitation of the U.S.S.R. - Australia Society in Moscow and the Soviet Ministry for Higher Education, and hopes to see something of scientific and technical education. After a short stay in England, where he plans to visit the Nuffield science teaching project, he will be travelling to the United States to visit educational institutes there, including the Elementary Science Advisory Centre in Colorado and Harvard Project Physics. Professor Fensham is expected to return to Monash on October 21.

Recent visitors to the Faculty have included Professor Elvin, of the University of London Institute of Education; Mr. A. Stanekzai from Afghanistan; and Professor Waino Suojanen from the University of Miami.

MECHANICAL ENGINEERING

The department has over a number of years promoted an interest in acoustics and noise control. At the request of Industry the third full-time intensive course for professional staff on "Noise and its Control" was held during August. The number of people that Industry were willing to support to attend the course exceeded the number of places available. The 16 participants accepted came from many different avenues of professional endeavour. All agree that the course was most successful.

Early in August the inaugural meeting of the Standards Acoustics Committee was held under the auspices of the Standards Association of Australia. An invitation was extended to Professor Barden to become chairman of this committee and of two working committees to do with Community Noise and Hearing Conservation. Dr. Stevenson, Chairman of the Symbols Units and Terms working committee and Professor Day of the Department of Psychology are also members of the Standards Acoustics Committee and members of the Community

Noise and Hearing Conservation sub-committees. There is a great need in this field for standards and codes of recommended practice to be available for the guidance of industry and the community at large.

MODERN LANGUAGES

French Section

The editorial board of the Australian Journal of French Studies met at Monash on Friday, August 2. Associate Professor W. Kirsop was elected editor for a term of three years. It is expected that the third number of the Journal for 1968 will contain some of the papers presented at the seminar on Apollinaire and Claudel which was held at the University of New South Wales during Easter, 1968. A special number in honour of Professor Chisholm is planned for 1969, to be followed later by a special number on Gide.

Professor Barko was invited to deliver four lectures at the University of New South Wales between September 2 and 4. Miss Jane Gilmore, Mr. John Humbly and Miss Millie Segan have left for post-graduate studies overseas.

German Section

Professor Leonard Forster, Schroeder Professor of German at Cambridge, gave a public lecture on Guenter Grass on Tuesday, July 16, and Dr. Brian Holbeche, of Macquarie University, Sydney, lectured on some Gottfried Benn poems at lunchtime on Wednesday, August 7, and later conducted a joint Melbourne - Monash research seminar on Trakl. On Wednesday, August 14, Professor W. Walker Chambers, William Jacks Professor of German at the University of Glasgow, visited the Monash German Department.

Candidates from 26 High Schools were examined in July at Monash in connection with the Goethe Poetry Prize Competition 1968.

A public seminar on Peter Weiss' play, Marat/Sade, arranged by the German Section and held on Tuesday, July 30, attracted an audience of about 300 people. The seminar was chaired by Dr. A. Roberts (Physics); the speakers were Professor D. Bradley, Mr. D. Douglas (English), Mr. M. Teichmann (Politics) and from the German Section, Professor L. Bodi, Mr. D. Roberts and Mr. P. Thomson.

Linguistics Section

Mr. B. H. Jernudd left on August 15 to participate in a research project on language problems in developing countries to be held in Honolulu. He will be away till June, 1969. Associate Professor Ruth M. Brend from Michigan, U.S.A., arrived on July 30. During her stay until December 15 she will take over Mr. Jernudd's duties and also give a series of seminars on tagmemics.

PHILOSOPHY

Papers have been read to the weekly staff seminar recently by Professor Judith Jarvis Thomsen from M.I.T., Professor Alan Donegan from the University of Illinois, and Professor Cameron from the University of Kent.

Associate Professor K. Rankin leaves Monash at the end of 1968 to accept the Chair of Philosophy at the University of Victoria in Canada: Dr. Joske has been appointed to the Chair of Philosophy in the University of Tasmania: and Mrs. Jenny Teichmann has accepted an appointment in the University of Cambridge.

POLITICS

Mr. Max Teichmann addressed a seminar on Vietnam and South-East Asia at the Administrative Staff College, Mt. Eliza, in March. He presented a paper at the Peace, Power and Politics in Asia Conference in Wellington, New Zealand, in late March and early April. While in New Zealand, he also read papers to the Department of Philosophy, University of Otago and to the Department of Political Science, University of Christchurch.

Subsequently, he presented a paper at the Pugwash Conference in Canberra on the Nuclear Non-Proliferation Treaty. (Other papers were read by Professors Bull, Titterton, Oliphant, and Burns.)

SCIENCE - DEAN'S DEPARTMENT

Dr. L. J. Gleeson presented an invited paper entitled 'Emerging Theories of the Solar Modulation of Cosmic Rays' at the Adelaide meeting of the Astronomical Society of Australia, August 12 to 14. Also at the invitation of the Centre National D'Etudes Spatiales, France, Dr. Gleeson is

to lecture for three weeks at the Summer School at Tarbes, France. This school is for thirty selected doctoral candidates from many countries including France, Russia, Spain, Yugoslavia, Canada, and U.S.A. It is conducted in August and September.

After the Summer School, Dr. Gleeson will be returning via the U.S.A. where he will attend the Conference on the Earth's Magnetosphere, at Washington, and consult with former colleagues at the University of California at San Diego.

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A.B.C. APPOINTMENT

Mr. John Waterhouse, Careers and Appointments Counsellor, has been appointed a member of the Australian Broadcasting Commission's State Advisory Committee for Victoria.

The principal function of the Committee is to provide advice on programme policy in radio and television.

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AUSTRALIAN INSTITUTE OF MANAGEMENT

The administrative Management Groups of the Australian Institute of Management will hold a meeting at the Institute, 31 Queens Road, between 6 and 8 p.m. on Tuesday, October 15.

The topic for discussion is "A No-nonsense Case Study re Computer Application". Anyone interested should contact Miss M. Elms, Phone 34 0484, Ext. 608 (University of Melbourne).

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FELLOWSHIPS AND SCHOLARSHIPS

SHELL POST GRADUATE SCHOLARSHIPS - 1969

The Shell Company of Australia Limited, on behalf of the Shell Group of Companies in Australia, offers one scholarship, tenable at Oxford or Cambridge Universities, United Kingdom, for two years from the commencement of the Michaelmas term, October 1969. This scholarship is valued at £1,100 sterling per annum. The cost of the passage to the United Kingdom and the return passage to Australia, if effected within 12 months of the completion of this scholarship period, will be paid by The Shell Company of Australia Limited.

The successful candidate will select a course of reading, in consultation with Oxford or Cambridge authorities, leading to a Bachelor's degree with Honours or to an appropriate further degree or advanced diploma.

A second scholarship, similar in all respects to the above may be awarded to a candidate who, when applying, specifically expresses the wish to make a career with Shell in Australia at the completion of the scholarship period. Should successful candidates in either category so desire, arrangements will be made for temporary employment by the Company from early 1969 until their departure for overseas.

These scholarships are open to male British subjects who have been domiciled in Australia for the last 5 years and who will have successfully completed a full-time honours course for the degree of Bachelor of Arts, Commerce, Economics or Law at an Australian University at the annual examinations which commence at the end of 1968.

Candidates should be under 25 years of age at the date of application. They must not currently hold another scholarship for overseas study or be under bond or committed in any way to an employer.

The Shell Company also offers one scholarship tenable in the United Kingdom from the commencement of the Michaelmas term, October 1969, for postgraduate work in Science or Engineering. The scholarship is designed to enable the holder, being a graduate, to undertake two years' postgraduate work at the Universities of Oxford, Cambridge or London, or at such other University in the United Kingdom as may be

indicated by the specialised nature of the studies which the scholar intends to follow, and which would be expected to lead to the degree of M.Sc. or Ph.D.

Whilst this award is normally granted for a period of two years, an extension into a third year will be considered provided that it is warranted by the scholar's satisfactory progress and recommended by his University supervisor as necessary to enable him to complete his particular study and/or to attain the standard required for a doctorate.

The scholarship is also valued at £1,100 sterling per annum. The cost of the passage to the United Kingdom and the return passage to Australia, if effected within 12 months of completion of the scholarship period, will be paid by The Shell Company of Australia Limited. At the end of the scholarship period the holder may be offered a position with the Shell Group which, however, he is under no obligation to accept.

This scholarship is open to male British subjects who have been domiciled in Australia for the last 5 years and who have taken with honours a first degree in Science, including Applied Science, or Engineering at an Australian University and preferably have had at least one year's experience in research. Candidates should be under 25 years of age at the date of application. They must not currently hold another scholarship for overseas study or be under bond or committed in any way to an employer.

Applications close on 14th October, 1968. Application forms are obtainable from the Grants and Scholarships Officer, Mr. W. S. Spence, in the University Offices.

QUEEN ELIZABETH II FELLOWSHIPS

To commemorate the Royal Visit to Australia in 1963 the Australian Government established the Queen Elizabeth II Fellowships Scheme. Under this scheme up to ten fellowships may be awarded each year for full-time research by young scientists of exceptional promise and proved capacity for original work. These are post-doctoral awards tenable in an Australian university or approved research institution normally for two years. Tenure of a Fellowship will commence on a date which normally should be within nine months of the date of the award.

Queen Elizabeth II Fellows must be either Australian or United Kingdom citizens. They should have a Ph. D., or equivalent qualifications, in one of the physical or biological sciences (which are deemed to include mathematics and the scientific aspects of statistics, engineering, metallurgy, agriculture and medicine). Awards will, in general, be restricted to applicants who are not more than 30 years of age on the date when applications close.

The Stipend will be \$6,000 (Australian) per annum - increased to \$6,500 per annum at age 28 years. Allowances are payable in respect of a Fellow's wife (\$500 p.a.), each dependent child (\$200), superannuation payments (up to 10 per cent of stipend), appropriate insurance coverage and necessary travel expenses. Host institutions are paid an allowance towards the cost of setting up the fellow and his research work.

Persons interested in applying for the fellowships should obtain application forms and a statement of the conditions of award from the Secretary, Queen Elizabeth Fellowships Committee, Department of Education and Science, P.O., Box 826, Canberra City, A.C.T. 2601, Australia.

THE MYER FOUNDATION

The Myer Foundation wishes to announce the 1969 series of Fellowships and Grants-in-Aid for graduates in the Humanities and Social Sciences who are undertaking postgraduate work in the following areas -

South Asia	Papua-New Guinea
East Asia	Southwest Pacific
Southeast Asia	(excluding Australasia)

Applicants may be either research students or members of staff in Australian universities. Fellowships will be awarded to applicants spending not less than six months in the country of study and may consist only of stipend, or of stipend and return fares. Should the candidate be married, some additional financial assistance may be granted for fares only. Fellows wishing to undertake more than one year's work may apply for a second year's support, but the application would be considered on a competitive basis with other applications for that year.

Grants-in-aid will be awarded to applicants who are

already in receipt of another grant covering only part of their requirements, or to applicants who have already worked in the country of study for at least six months and require a further period to complete their research. Except in the latter case, grants-in-aid will not be awarded for study periods of less than three months' duration.

Fellows and grantees may undertake formal postgraduate study at a university or other institution of higher learning, or may conduct independent research. Since there will be considerable variation in individual requirements, fellowships and grants-in-aid are not for any specific sum or period.

Details of the information required from applicants may be obtained from :-

The Executive Secretary,
The Myer Foundation,
224 Queen Street,
Melbourne. Victoria. 3000.

Applications, typewritten in quadruplicate, should be sent to the same address before 20th January, 1969.

ADELAIDE UNIVERSITY WOMEN GRADUATES' ASSOCIATION

Applications are called for the first Jean Gilmore Bursary which will be available in 1969. Value \$500. The Bursary is open to a woman graduate in Australia and Australian Territories provided she is a member of the International Federation of University Women,

- (a) to assist her to proceed to a higher degree
- (b) to complete a research project, including purchase or hire of equipment
- (c) for other projects put forward from time to time.

Application forms may be obtained from the Honorary Secretary of the A.U.W.G.A., Mrs. B. E. Crase, 8 College Street, College Park, South Australia, 5069. They must be in her hands by January 31, 1969.

LADY LEITCH SCHOLARSHIP

Applications are called for the Seventh Lady Leitch Scholarship which will be available during 1969 or 1970. The Scholarship is open to all members of the Australian Federation of University Women for study or research in any

country on any subject, and is of the value of \$1500. Applications will be received from graduates who have not yet taken out their degrees.

Anyone interested should contact the Honorary Secretary of the V.W.G.A., Mrs. D. E. Price, 6 Berkeley Court, Kew, Victoria, Australia.

THE GOWRIE SCHOLARSHIP TRUST FUND

Each year the Trustees of the Gowrie Scholarship Trust Fund offer Postgraduate Research Travelling Scholarships (usually two in number) to graduates of Australian universities who wish to study overseas. Applications from students in their Final Year will receive consideration provided they are otherwise eligible.

The Scholarships are open only to members or ex-members of the armed forces who saw active service in the Second World War; and to their children (and in some cases grandchildren). The value of the Scholarships is currently \$1,800 per annum.

Applications forms are obtainable from the Grants & Scholarships Office in the University Offices, and should be submitted in duplicate to the same office not later than Friday, November 15th, 1968.

COMMONWEALTH SCHOLARSHIP AND FELLOWSHIP PLAN

The awards are offered by the United Kingdom, Canada, India, Hong Kong, Ghana, Nigeria, Jamaica and Ceylon.

The United Kingdom awards will be tenable from October 1969 at institutions of higher learning in Britain, and Australia will have a total allocation of about 15.

Persons who hold good honours degrees of this university or who expect to complete the requirements for an honours degree at Monash this year may apply on the standard form, copies of which will be available in the Grants & Scholarships Office in the University Offices.

A separate set of seven (7) copies of the completed forms should be lodged at the same office in respect of each country from which the applicant is seeking an award not later than Friday, October 11, 1968.

A scholarship is tenable for a program of study or research normally extending over a period of two academic years and leading to a university degree or similar qualification. An award may however be made for one academic year only.

The emoluments are intended to cover expenses of travel, living and study during tenure of the scholarship, and will consist of:

- (a) fares to Britain and return on expiry of the scholarship (the cost of journeys made before receipt of awards will not normally be reimbursed);
- (b) approved tuition, laboratory and examination fees;
- (c) personal maintenance allowance at the rate of £S62 per month;
- (d) a grant for books and apparatus of £S25 per year and of up to £S25 for typing and binding of thesis, where applicable;
- (e) a grant for expenses of approved travel within Britain of up to £S25 per year;
- (f) an initial clothing grant of £S40 for such scholars coming from tropical countries as are recommended to receive it;
- (g) for male scholars accompanied by their wives, a marriage allowance at the rate of £S24.25s. per month, and allowances at the rate of £S5.10s., £S3.13s.4d. and £S3.4s.2d. per month respectively for the first, second and third of his children under the age of 16 who are with him in Britain. A marriage allowance will not be payable in respect of a wife who holds a scholarship herself or who is in paid employment.

These emoluments are not subject to United Kingdom income tax.

JAPANESE GOVERNMENT RESEARCH AWARDS

The Government of Japan offers research award to foreign specialists in the fields of natural and applied science and technology for the programme year 1968-1969. The award is administered annually by the Science and Technology Agency for the said Government for the promotion of international scientific co-operation, through enabling specialists of foreign countries - one from each of Australia, France, Germany, Netherlands, U.K. and U.S.A. - to reside for approximately 7 months to perform research in government laboratories.

The following will be borne by this award for each recipient :

- i) living expense: up to a total of 560,000 yen;
- ii) travel expenses to and from Japan, economy class flight.

The office of the Department of External Affairs in Canberra is handling all matters concerning these awards and interested persons should enquire there for further information.

Applications should be lodged at the same office before the end of September, 1968.

LEVERHULME TRUST FUND INTERCHANGE SCHEME

Applications and nominations are now being invited for both Outgoing and Incoming Fellows under this scheme for 1969/70. Applications close with the Academic Registrar on November 1, 1968.

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