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MONASH UNIVERSITY GAZETTE

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CENTRE OF SOUTH-EAST ASIAN STUDIES

By J. D. Legge, Professor of History

The decision of Monash University to establish a Centre of South-east Asian Studies may seem at first glance to be a simple, uncontroversial decision — a matter merely of keeping up with the times. There is no longer any need to justify the importance, in Australian circumstances, of an increased university emphasis on the study of Asia. Shifts in the balance of world politics and changes in the patterns of our trade have combined to make us permanently aware of our nearest neighbours while particular crises — China's border dispute with India, Indonesia's confrontation with Malaysia, America's dilemma in Vietnam — have heightened our sensitivity to our somewhat precarious position in the world. Growing academic interest is a natural response. In the past the orientation of studies in the humanities and social sciences in Australia has been essentially European. English, European languages, and European history have composed the main courses in the fare offered to undergraduates, and faculties of Arts in Australian universities might almost have been described as "Schools of European Studies". It is, of course, entirely proper that continuing attention should be given to our own cultural origins. But it is also proper that there should be at the same time an increasing attention to the societies which lie close to us. Even though the initial impetus may be largely a utilitarian one, it can be supported by sound academic considerations. These societies are worthy of study for their own sake, and the big issues of human experience can be examined as well in an Asian as in a Western European context.

However, though these conclusions no longer have to struggle for acceptance there is still plenty of room for differences of opinion on important matters of detail.

What precisely should be the region on which our main energies should be concentrated? How far should there be an expansion of Asian studies at the undergraduate level, and how is undergraduate teaching and post-graduate research best organized? Should Asian cultures be approached primarily in the classical fashion through their languages and literature, or is a "social science approach" to be preferred? Probably it is desirable that Australian universities should give a variety of answers to questions such as these. Departments of Indonesian and Malaysian Studies in the Universities of Sydney and Melbourne, and the Australian National University's faculty of Oriental Studies represent some of the academic responses which have been made. The Monash centre is another variant.

The decision to select South-east Asia as the region of our particular concentration was made after a good deal of consideration. A series of departments in the University had chosen independently to place an Asian emphasis in their undergraduate teaching but the net was thrown fairly widely. The department of Geography, for example, decided to offer a course in South and South-east Asia (roughly from West Pakistan to the Philippines). History has offered Far Eastern and South-east Asian history. Politics lists simply Asian Politics as one of its third year options. While such a wide geographical spread may be desirable for undergraduate teaching the University could not hope to justify an equal spread of research interest over this whole field, and the need was felt to define more closely a limited area in which a major research onslaught could be planned. At the same time it seemed necessary to avoid a duplication of plans already laid by other

universities and notice was taken in particular of the territorial claims of our Parkville neighbour. The University of Melbourne, in addition to its department of Indonesian and Malaysian Studies, had already established departments of Oriental Studies and Indian Studies. China, Japan, Indonesia and Malaysia, and India have also, in greater or lesser degree, been the areas of concentration of other Australian universities. It was thus not easy for us to avoid overlapping. In our own case Indonesia and Malaysia represented the prime fields of interest of a number of individual members of staff who were anxious for opportunities to develop their study of this region. It was finally decided that an extension of this field to include Burma, Thailand, the states of the Indo-Chinese peninsula, and the Philippines would enable us to retain our special Indonesian and Malaysian interests while also assuming responsibility for the study of other parts of South-east Asia which other Australian universities have tended to ignore.

The organization of the centre also has its distinctive features, at least as far as Australian universities are concerned. The pattern we have chosen is not uncommon in the United States, and it follows closely the form preferred by the sub-committee appointed by Britain's University Grants Committee to consider the future development of Oriental studies in the United Kingdom.¹ Instead of creating a separate Asian studies department which would seek to combine the techniques of a number of disciplines for the purpose both of teaching undergraduates and promoting postgraduate research, it is intended to build South-east Asian studies on the foundations provided by existing departments, and in such a way as to enable the fullest co-operation between them. As we have seen, a number of disciplines are already placing considerable emphasis on the study of the region in their undergraduate teaching: anthropology and sociology, economics, geography, history, politics, and languages. A student who wishes, while working towards his Bachelor's degree, to stress the study of South-east Asia will be able to do so by combining complementary majors and sub-majors in his chosen disciplines, and such complementary planning will be encouraged. He may combine the study of Asian history with courses in comparative Asian government, for example, or he may pursue a double major in geography and politics, each part of which will develop his knowledge of the region as well as his grasp of the disciplines concerned. In all cases the study of the discipline will be primary and the study of the region will be secondary. At the postgraduate level, however, these departments, operating through the Centre of South-east Asian Studies, will pool their resources for the purpose of inter-disciplinary seminars, the planning of research programmes, and the supervision of Master's or Doctoral work. The departments will thus retain their autonomy. The purpose of the centre is to facilitate co-operation which will reach across disciplinary boundaries and bring together historians, geographers, political scientists, sociologists, economists, and linguists for the study of the one region.

In choosing this form of organization we have not been blind to the very real advantages to be found in the alternative arrangement — the formation of an

Area Studies department operating at both undergraduate and graduate level. There are plenty of examples of departments of South-east Asian Studies, Oriental Studies, Slavonic Studies, and so on. By combining in the one constellation of courses the resources of a series of complementary disciplines all devoted to the study of a particular region, it is certainly possible to lead students to an advanced knowledge of that region. But this can be achieved only at a price. A student graduating from such a training may know a great deal about his region but less about the profounder reaches of the disciplines on which his studies have drawn. He may know a great deal about modern Indonesian literature but not enough about the development of other literatures or about contemporary developments in literary criticism. He may know a great deal about the rise of South-east Asian nationalist movements but not enough about the French Revolution, or about historical processes in general. Time is limited and one cannot, of course, have everything. For good or ill we have chosen to place the emphasis at the undergraduate level upon the disciplinary training rather than upon the area knowledge. At this point the student will receive merely an introduction to the area. His more specialist knowledge can come later. The object is to make him an historian or a political scientist or a geographer first, and the area specialism must, for the time being, take a back seat.

From the point of view of academic staff there are considerations of domestic convenience involved also. In the simplest terms the choice can be posed in terms of routine daily contacts. Is it better to meet, over the morning coffee table, people who are working in different sectors of one's own discipline, or people from other disciplines who share a common interest in a particular geographical area? The choice could go either way, but, since the area specialists are likely to seek each other out in any case, there is much to be said for ensuring that day to day contacts are maintained within the discipline, and this is the form of house-keeping we have chosen to follow as far as South-east Asia is concerned.

In all of this planning we have clearly come to take up a position on one question which has for long been a matter of controversy amongst Orientalists — the question of modern versus classical studies. More precisely it may be posed as a question of whether the study of language, literature, and philosophy must necessarily lie at the heart of any exploration of a foreign culture. The traditional approach in the United Kingdom has been based on an affirmative answer to the question and it has indeed been argued that such an approach represents the only route to understanding and that any other way is, of necessity, superficial. With the development of the social sciences such an exclusive claim is harder to defend. The economist or the political scientist would certainly admit the legitimacy of the traditional approach as one of a number of approaches, but he would deny that it was the only one. He would insist, on the contrary, that he had a contribution to make to the study of, say, contemporary China which did not depend for its validity upon his mastery of the riches of Chinese thought. For his purposes the important part of his equipment would be his technical training as an economist or political scientist, and language would be important as a tool, not as a central object of study. On this issue the Hayter sub-committee's

1. *Report of the Sub-Committee on Oriental, Slavonic, East European, and African Studies*. London, H.M.S.O., 1961.

report was tersely critical of tradition. Referring to the policies followed in the past in Britain it commented: "The result of limiting the support for Oriental and Slavonic studies to the language departments has meant that some of the universities have found themselves caught in a cul-de-sac from which it has proved difficult to escape. That the cul-de-sac was filled with the most valuable treasures of classical scholarship has obscured the lack of balance between these studies and those undertaken in other faculties and departments, and between classical and modern studies." [Ibid., p. 46.]

To pose this issue simply in terms of "classical" versus "modern" is perhaps misleading. The social scientist's enquiry may be directed to "modern" problems — to the study of new elites in South-east Asian societies, to problems of economic growth, or to patterns of urban concentration — but they may equally well be concerned with the structure of political authority in the 14th century Indonesian empire of Majapahit, or with the character of a wet rice economy in 10th century Angkor. The distinction refers to basic methods of approach rather than to the period in which the study is set. In the last analysis the sharpness of the distinction needs to be blurred. The classicist may find his subject illuminated by the findings of the social scientist; the social scientist would be unwise were he, in his pursuit of an understanding of contemporary society, to forget the inertia of traditional forces. The difference of approach has been sharp in the past, however, and it is likely to remain something of an issue. The sub-committee's demand for an extension of modern rather than classical studies was not, of course, intended to deny the validity of the latter, but merely to deny its exclusive claims. Nor must its strictures be taken to imply a view of the unimportance of languages. Obviously modern studies must involve the growth of vigorous language departments. For social scientists language may be a tool rather than an end in itself, but the tool can only be made available if there is a recognition of the legitimacy of language study conducted for its own sake. The development of the Monash Centre of South-east Asian Studies must include the extension of language study beyond those we are now teaching — Indonesian and Malay — to the other languages of the region, and to classical as well as modern languages.

This brief account of our organization and our plans should not end without a word of warning. The device of centring an area programme on the discipline departments may seem attractive to some on the grounds that it can enable an area programme to be developed without the creation of an expensive departmental organization. That is in part the case, but it should not be assumed that a successful centre can be established on the cheap. The financial claims of research in history and the social sciences have only just begun to be recognized. For years it has been assumed too easily that while physics or chemistry or engineering required extensive funds to support them, the work of the social scientist could be carried on adequately without such lavish expenditure. The social scientists, by accepting their poverty, may have helped to contribute to this view. This attitude is passing, but it may not be out of place to point briefly to some of the items of expenditure for which a Centre of South-east Asian Studies must budget. For the historian access to records by micro-filming or by travel is essential. The anthropologist

must live in the society he is studying. So must the political scientist. For the geographer, too, travel to the field is an essential part of research and must be accepted as such. Provision for the postgraduate scholarships represents another major item if a research programme is to be developed, and in this field, as in others, the growth of an adequate library is absolutely necessary. Given our geographical position it is quite shocking to realize that no Australian library can make the remotest claim to completeness in the building-up of a South-east Asian collection. This needs to be one of our first objectives.

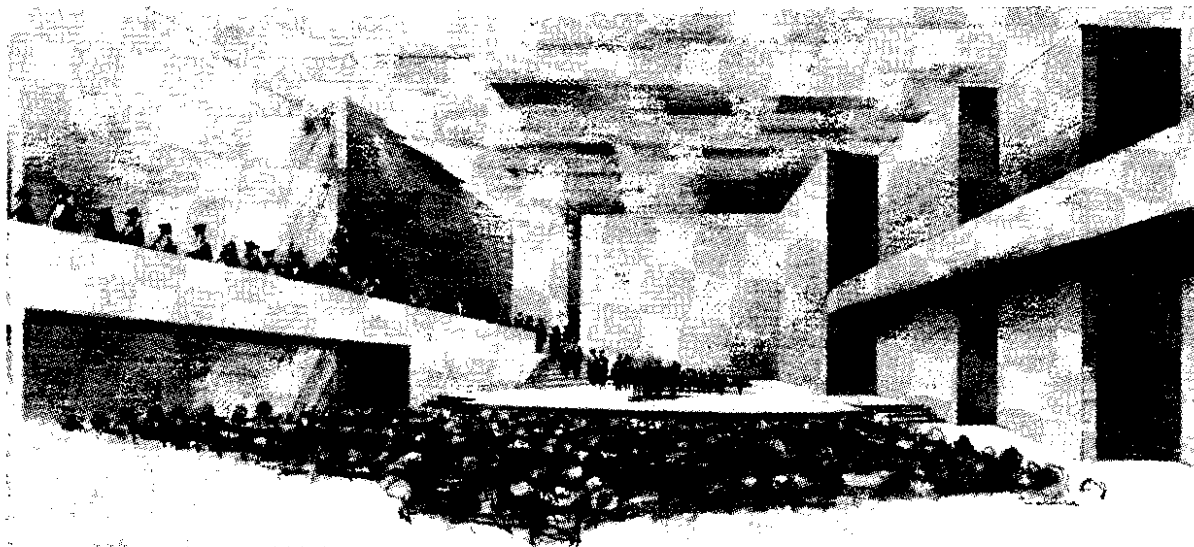
DUKE AND DUCHESS OF GLOUCESTER VISIT THE UNIVERSITY

Their Royal Highnesses, the Duke and Duchess of Gloucester, visited Monash on Friday, March 26. The Duchess made a brief tour of the main library and was accompanied by Lady Blackwood, Dr. and Mrs. Matheson, and Mr. Ernest Clark. The Duke visited the Robert Menzies School of Humanities, accompanied by Sir Robert Blackwood, and made an inspection of the language laboratories in the department of Modern Languages.

Members of staff joined Their Royal Highnesses for luncheon in the private dining-room in the Union building. The Royal Party departed at 2.15 for afternoon commitments.

The Duke inspects one of the language laboratories





Architect's drawing of the interior of the auditorium in the Great Hall

THE MONASH GREAT HALL PROJECT

By Sir Robert Blackwood, Chancellor

Members of the University are of course now acquainted with the Council's plans to make a public appeal for funds during August of this year for the purpose of financing the provision of a Great Hall for Monash.

With the rise in student numbers to 4,250 this year and a possible student population of 12,000 within the next five years, the provision of a Great Hall is becoming urgent. Not for much longer will it be possible to hold our graduation ceremonies in basements and cafeterias — a proper ceremonial building will become necessary. Not for much longer can we hold examinations in existing class rooms and drawing offices — more extensive facilities must be provided. Not for much longer can we ignore our obligation to the surrounding communities to provide an active centre of intellectual culture to serve them, to provide lectures, to stage plays, to bring orchestral music to the people. A Great Hall will do all this.

Whilst both the Commonwealth and State Governments have been very generous to Monash in providing funds, priority in their application has had to be given to the provision of teaching facilities. The Universities Commission has, however, indicated its willingness to support a Great Hall project provided one third of the cost can be raised by the University itself. The object of the Great Hall appeal will be to raise the amount necessary to meet this requirement, together with the cost of the surroundings and approaches to the building. An amount of £250,000 is necessary for this purpose. An additional amount of £100,000 has been included in the appeal to provide for additions to the library book stock and for the provision of faculty laboratory equipment. The total appeal will be for £350,000, and this will attract Commonwealth and State support amounting to £300,000.

The Council is anxious that the appeal should be well

supported both by its own members and by the staff and student body of the University. Good support from within will provide ample evidence to those without the University of the importance with which this project is regarded by the members of the University itself, and will encourage them to assist us in making the appeal successful. An early indication of substantial financial support from within the University will do much to ensure a successful appeal.

Already several members of the Council have contributed substantially to the fund.

I appeal to all members of staff to demonstrate their support for the Great Hall project by giving generously to it now.

VISIT OF LORD BOWDEN

The Right Honourable Lord Bowden of Chesterfield, Minister of State for Education and Science in the British Government, was a guest of Dr. and Mrs. Matheson from Tuesday, January 26 to Friday, January 29. The purpose of Lord Bowden's visit to Australia was to participate in the summer school of the Australian Institute of Political Science which was held in Canberra at the end of January.

Lord Bowden is principal of the Manchester College of Science and Technology and has been dean of the faculty of Technology, Manchester University, since 1953. He has also been chairman of the Electronics Research Council of the Ministry of Aviation since 1960, and president of the Science Master Association since 1962.

Lord Bowden was created a life peer in January, 1964.

COMPUTER FACILITIES AT MONASH

By C. J. Bellamy, Senior Lecturer, Department of Mathematics

Monash is probably the most computer-conscious university in Australia. A glance at the list of computer installations in Australian universities shows that, in terms of the number of computers installed and their size, we are comparatively well-equipped. I believe our computer-consciousness can be attributed almost entirely to the low average age of the staff and an interest in new approaches to problems. This has been demonstrated by the way in which computer courses for undergraduates have been accepted in the faculties of Economics, Engineering, and Science, the wide range of uses being found for the computers by research workers, and the fact that Monash is the only university making any substantial use of a computer for administrative procedures.

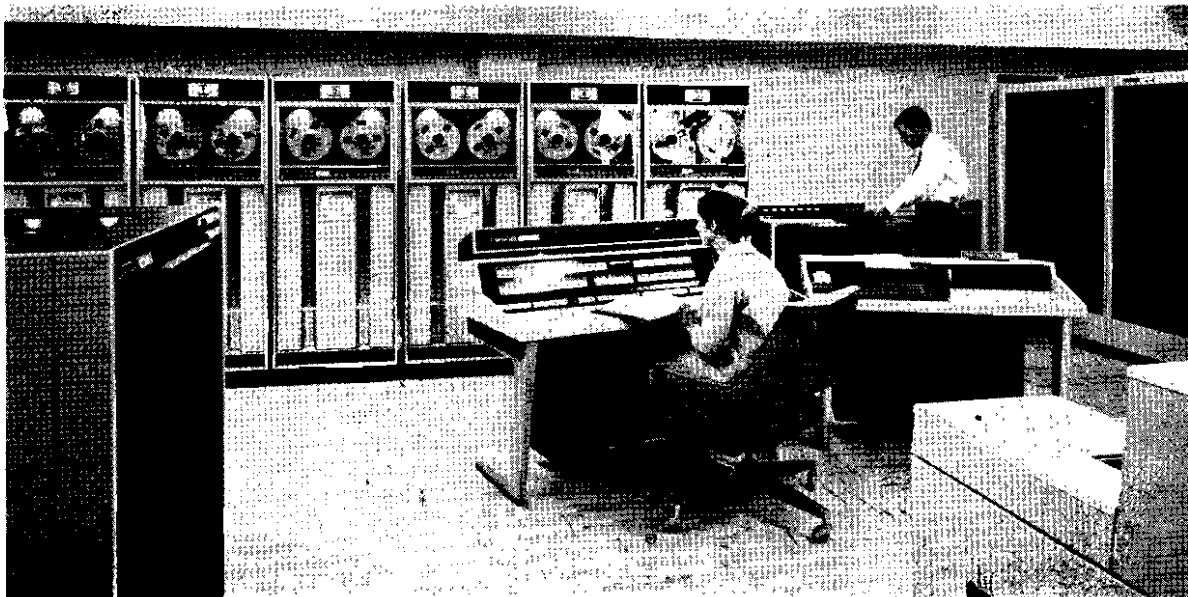
Computing Equipment in Australian Universities

<i>University</i>	<i>Machine</i>	<i>Installation</i>
Adelaide	CIRRUS	1964
	IBM 1620	1963
	IBM 1620	1961
Australian National University	IBM 360/50	late 1965
Melbourne	IBM 7044	1964
	CSIRAC	1956
		shut down 1964
Monash	SIRIUS	1962
	Burroughs B200	1964
	CDC 3200	1964
Newcastle University College	IBM 1620	1964
New England	IBM 1620	1964
New South Wales	Deuce	1956
	2 IBM 1620	1963
	IBM 360/50	late 1965

Queensland	GE 225	1962
	SILLIAC	1956
Sydney	English Electric KDF9	1964
	IBM 1620	1962
Tasmania	Elliot 503	1964
Western Australia	IBM 1620	1962
	PDP-6	1965

Until recently most university computing facilities throughout the world have come into being as a result of the research and development efforts or the substantial computing problems of a particular department. Depending on where you look computing facilities can be found in departments of Electrical Engineering, Mathematics, Physics, Economics, and Medicine. As more and more people have come to find a computer an indispensable tool in their research and have had to make demands on another department's computer, the financing and control of the computer facilities have become a problem. The result is that many universities are now in the position of reviewing the organization of their computing facilities. In some cases this is proving to be more difficult than it might seem. Departments that have partly supported computer installations by engaging in research contracts requiring extensive computing and by selling computer time, are now not in a hurry to have their financial situation altered, while other departments feel that they have no control over what should be a service facility for the whole University. An additional problem is that the service obligations of a computer centre are not compatible with the development of teaching and research in a rapidly

The computer centre's CDC 3200 computer system which was installed at the end of 1964



growing and important field. The accepted solution is to run the computer centre on a similar basis to a library, with an independent academic department which has strong ties to the centre through common interests.

At Monash we were conscious of some of the problems that others were encountering when the computer centre was established soon after the delivery of the Sirius computer in late 1961. As a result there is now a computer facility with the officer-in-charge responsible to the computer centre committee which has the function of determining matters of policy. At this stage the question of the teaching of computing and data processing was resolved to the extent that the staff of the computer centre were to provide service courses covering the techniques of computing as they interested a particular department. Courses for economics, science, and engineering students have been given since the beginning of 1962 and programming courses for staff have been held in vacations as the demand arose. Some of the centre's staff have academic status and, as an interim measure, hold appointments in the Mathematics department.

The remarkable absorption of computer techniques into Australian commerce and industry in the last four years has given rise to a substantial demand for graduates with specialist training in the field of computing, data processing, communications, control, and computer systems. From some dozen computers in the country early in 1961 the total has grown to about 230 with a further 130 on order. Estimates of the requirements for graduates with specialist training by 1966 range from 300 to 700. The failure of the universities to cope with this problem is shown by the difficulties experienced by organizations in obtaining suitable staff and the high salaries being offered to university graduates experienced with computers.

One reason why universities have, on the whole, been tardy in introducing computer science curricula is that computer programming and the use of computers to solve problems tend to be regarded by the outsider as little more than a technological stunt. This is often the case when a particular problem is tackled for the first time, or an item of computer hardware is developed to handle new types of input media or a new logical function. Subsequent investigation however may produce programmes which generalize the range of application, introduce some new structure into the programme, show up similarities between procedures being employed in other programmes, and so on until definite principles of procedure construction become apparent. As a result of this type of development, which is common in many areas of science and engineering, the stage has now been reached where it is considered by many people that a sufficient body of knowledge worthy of being regarded as a new academic discipline has been accumulated. Several American universities which have been leaders in the computer field have recently organized computer science departments under a variety of names, and in Australia the Universities of Sydney, Melbourne, and Adelaide have introduced undergraduate courses in computer science leading to a B.Sc. At Monash the first step in developing a teaching and research group has been taken with the advertisement of a chair of Information Science. This title has been selected as better representing the area of interest, that of information processing, than the term computer science which is somewhat narrow.

After the delivery of the Sirius computer the computing work-load at Monash grew rapidly until early in 1963 the Sirius was often being used 7 days a week and 24 hours a day. The work mainly came from molecular structure problems arising in the department of Chemistry, problems in engineering and theoretical physics, limited data processing applications for administration such as the payroll, and exercises set for undergraduate students. Limited use of the computer was made by the Economics and Medicine faculties for statistical problems, and by the Philosophy department in studying some aspects of logic. One more unusual research project in the department of Chemical Engineering has involved the use of the Sirius in studying the problems involved in optimizing the operation of a chemical process by controlling it with a computer. The computer in this case is used on-line to read various instruments and control the flow of chemicals by adjusting valve settings, effectively running the whole experiment on a model chemical plant and logging the appropriate information. It can be seen that most of the problems that have been tackled using the Sirius were numerical in nature and in this respect the development of the use of the computer at Monash has been quite normal.

As far as the University was concerned the Sirius computer was only an interim measure. Being a small and comparatively slow machine without any backing store such as magnetic tape for holding large volumes of information, it did not have the features necessary for adequate practical work for students of data processing nor the speed and capacity for handling the growing research problems. It has however proved to be, and continues to be, a very reliable and useful machine. At the time that Monash and other universities were requesting funds for larger computer systems the Commonwealth Government was examining a proposal for a computing network for the C.S.I.R.O. and universities, the outcome being for C.S.I.R.O. a large central computer in Canberra with satellites in Melbourne, Sydney, and Adelaide, and for the universities various special grants which were expected to be used in the purchase of compatible systems. The grant of £100,000 received by Monash was found to be less than half the list price of what we considered the minimum acceptable system available. A combination of factors, four other universities in a similar situation, some collaboration between universities, and strong competition from manufacturers led to five universities obtaining respectable systems. In our case a gap of £72,000 in the finance available was bridged by contracting to sell computer time to Control Data Australia over a period of several years. Only by doing this was it possible for the University to take the step from a small to a medium-sized computer system. As a result the order for the CDC 3200 system was placed in April, 1964, the system being delivered in November.

The CDC 3200, while turning out to be our only choice on financial grounds, would also have been chosen on purely technical grounds. It is basically a fast machine, will have extensive programming systems, and has the added advantage that it is also the machine used for the satellites in the C.S.I.R.O. network. The Melbourne satellite is housed on the perimeter of the campus in the C.S.I.R.O. David Rivett Laboratory, making possible a high degree of co-operation with C.S.I.R.O. in the development of the 3200 programme.

library. Comparison of the speed of the 3200 with the Sirius on an extended technical calculation shows it to be more than 30 times as fast as the Sirius, that is to say 24 hours of work for Sirius can now be handled in a little less than a hour. The added facilities offered by the high-speed magnetic tape units, using reels of tape capable of holding the same volume of information as a large book and a 1,000-line per minute printer, allow a wide variety of problems to be tackled that could not be handled previously.

After encountering some difficulties of the type to be expected with an early model of a new computer, the 3200 system at Monash passed the acceptance tests in February and by the time the first term started was operating quite smoothly. At this stage the system is operating between the hours of 9.00 a.m. and 5.00 p.m. with Control Data using 75 per cent of the time and the University 25 per cent. In terms of computing capacity this means that in six months the computing load for the University has grown from a capacity of one Sirius to that of almost three. During the programming course held this May there were as many as 180 programmes being run during one day, the machine and the staff being fully occupied. It is expected that by the end of the year the computer will be running well into a second shift.

So far there has been no marked change in the character of the problems dealt with by University staff even though we have extended facilities available. Many people are taking advantage of the higher speed of the system to do more computing and to undertake problems which were previously not possible because of the undue length of time that they would have taken. One notable project started in the department of Modern Languages involves the use of computers to study some aspects of style. Initially this will involve developing programmes to be used for generating a word index and concordance for a text that has been punched on to paper tape. This represents Monash's first venture into the rapidly developing field of 'literary data processing'.

The type of service that has been budgeted for in the computer centre covers the running of programmes, the provision of a programme library, dissemination of programming information, and a consulting service on the tackling of problems and programming difficulties. Where a person cannot reasonably be expected to write his own programme in a language such as Fortran or Sirius Autocode, every effort is made to help. This is the type of service that most university computer centres have found practical to offer. Unfortunately this does not satisfy the people who have a problem and not the time to write the programme or often not the inclination to learn. Catering for such users in a university environment has been found to be prohibitively expensive as there are normally several hundred people who would all like to have programmers work for them. In some respects it is like having a library in which there are librarians who are expected to read the books for the users and answer their questions. As a general policy departments which can justify the full-time services of a programmer are encouraged to employ one as it is far more efficient to have a research group responsible for its own programming than to have a programmer without any background in a particular field wasting time programming a misconception of the problem.

The 3200 system is based on the idea of the batch-processing of job stacks. This is by no means the ideal

type of system for a university and a swing towards multiple access computer systems in universities can be expected. There has been for some time a great deal of interest in the concept of a computer system which would enable a number of users to be serviced simultaneously, each communicating with the system via an on-line typewriter console. The success of the project MAC system at M.I.T., which is now providing this type of service on an experimental basis, has stimulated action on this idea. Many problems remain to be solved before a computer system of this type, which would be suitable for Monash University as far as cost is concerned, is available from manufacturers. Given adequate money, staff, and time it would be possible to develop our CDC 3200 into a system of this type. However I believe that the only realistic approach to developing the 3200 system is to wait for the manufacturers to do the work. Too many university computer centres have failed to provide a reasonable service because their efforts have been directed to the design and development of computer systems on which they hoped to base service work, when computer companies have been able to provide reasonably adequate systems on time and at lower cost. In saying this I do not mean to imply that university groups should not carry out research on computer systems, far from it; it is merely that the remainder of the university cannot be expected to have to use a prototype facility when fully developed systems are commercially available for a similar outlay.

A question which is often asked is where the development and use of computers will actually end. Most evidence points to the conclusion that we have only just started to exploit the facilities offered by digital computing devices. As far as Monash is concerned we have only made a start on the possible applications for these machines. In the years to come we can expect to continue to get best value for money by concentrating on the development of a large central facility, as a computer system twice as expensive as another is often four times as fast. At the same time there are now a number of small and relatively cheap computer systems becoming available which offer interesting possibilities for the on-line control of experiments and logging of data, and no doubt there will be situations which warrant purchasing some small special purpose systems. If the experience of many American universities, where the average growth rate of computer facilities over the past ten years has been something like 40 per cent per annum, is any indication we can expect to be under pressure from teaching and research requirements to sustain a reasonable rate of growth.

STATISTICS LIBRARY

The faculty of Economics and Politics has recently opened its statistics library in the Menzies building. The library comprises the faculty's collection of statistical material published by Australian governments and international agencies such as U.N., O.E.E.C., and I.L.O., and annual reports and publications of government departments and semi-governmental authorities. It is intended that this library should develop as the University's main collection of social and economic statistics.

EDUCATIONAL TELEVISION

By E. C. Snell, Television Officer, Faculty of Medicine

On April 27, 1963, Sir Macfarlane Burnet officially opened the first stage of the medical school. He concluded his address by saying, "Perhaps the greatest thing that the Vice-Chancellor and the dean of the faculty of Medicine could do for Monash would be to build up from the beginning an administrative structure which, while ensuring continuity of purpose and function, will be ever alert to recognize the emergence of new developments of knowledge or social conscience. If in addition they can devise means to imbue the school with the need and ability to respond smoothly to changing circumstances and to make without haste, but without undue delay, the appropriate changes in forms of instruction and other activities, their names will be remembered for ever". The opening ceremony was carried by television to an overflow audience.

Twelve months later the position of a full-time television officer was advertised. Earlier action had been delayed by the Government's failure to implement the Ramsay report published in July, 1963. On appointment, the immediate duty of the television officer was to implement a closed-circuit television system for the medical school whilst keeping in view the future needs of the University as a whole, so that an overall integration of equipment could be readily achieved.

Television must be used as a servant and it must not be allowed to become a master. Perhaps therein lies some of the fear of those who do not want to see the 'monster' of television enter the educational field. Rather than seeing it as a tool they see it as a curb on their thinking and the way in which their subjects are to be treated, and on their actions. Television is a means of communication. It has neither integrity, intellect, nor

emotions. It is as ready to transmit lies as it is truth, trivia as it is wisdom. Although many of us are inclined to treat it as if it had an essential life of its own, television has no ability except to communicate, but if used skilfully it can communicate exceptionally well.

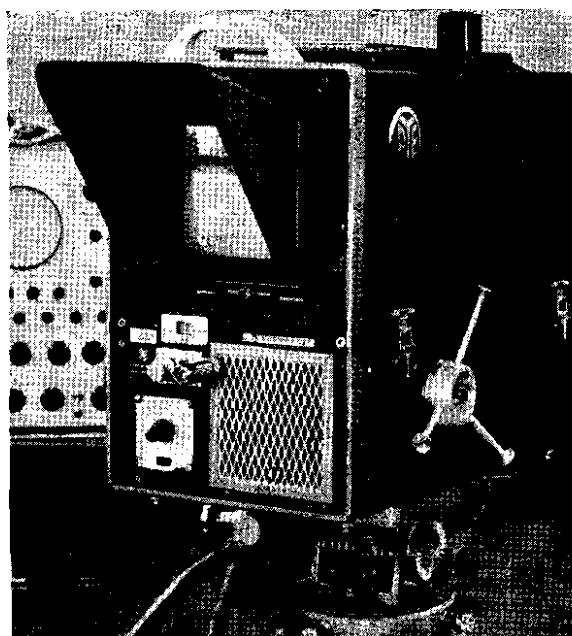
The other extreme position in regard to the introduction of television in educational processes is the attitude that television is the cure of all educational ills: if there is inadequate staffing, then use television; if there is not enough equipment, then use television; if there are too many students for one room, then use two rooms with television in the overflow. Television could be used successfully in all these circumstances, but there are many issues related to the characteristics of the television system which must be considered along with the factors just given. Generally, where television instruction is given primarily to overcome an inconvenient situation, much more thought must be given to the presentation than in different circumstances where the television is used because it is appropriate to the subject and its use has been invoked as an aid in the presentation of the subject matter. Often it is only when there has been the pressure of an inconvenient teaching situation that finance has become available to allow the purchase of television equipment, and it has not been until then that practical experience with television has become possible. As a result mistakes have been made, and the television system itself blamed for failure of the entire enterprise rather than the way in which the medium has been used. It is the responsibility of those who use it to make certain that it is used skilfully.

One thing television cannot do is teach — it is only a means of communication. It has been said, "Feed junk in, junk comes out". As well as being unable to teach, it cannot replace face-to-face relationships. What must be closely considered is just where such relationships are essential to the educational process. Many people can testify that they have been able to form an opinion of the character of a television personality without a face-to-face meeting. The popularity of certain television programmes is based on the ability of the medium to successfully transmit personality.

In a lecture with many students the lecturer and students may be looking at each other, but only rarely is there a real face-to-face meeting between the lecturer and a student. In televised lectures a student could easily become more aware of the personality of the lecturer and relate more readily in subsequent personal contact than if he were only one among many and poorly placed in the lecture theatre. There can be an intimacy about a television lecture which seems to make it more a person-to-person presentation than the person-to-mass approach which could obtain in a "live" lecture. A televised lecture can also be more dead and dull than the lecture presented "live".

It may be said that television cannot successfully handle the communication of entirely abstract ideas. Words are the means of passing such ideas from one person to another. One particular word used in a certain context may mean a different thing to different people. To transfer an abstract idea from one person to another

Rear view of studio camera



requires a constant checking and rechecking by the teacher to make sure that the idea is clearly received. Face-to-face communication for efficient learning in this area is essential. A two-way television system could be set up between teacher and class so that the teacher also sees the class or classes which he is addressing; however, the free flow of interaction would be stifled.

Similarly, seminars, any area of group discussion, and tutorial classes cannot be competently handled by television. Here, where it is desired to clarify gained knowledge, where the interplay of personalities is important, or where it is required to check the amount of knowledge assimilated, television is likely to intrude itself to the detriment of the situation.

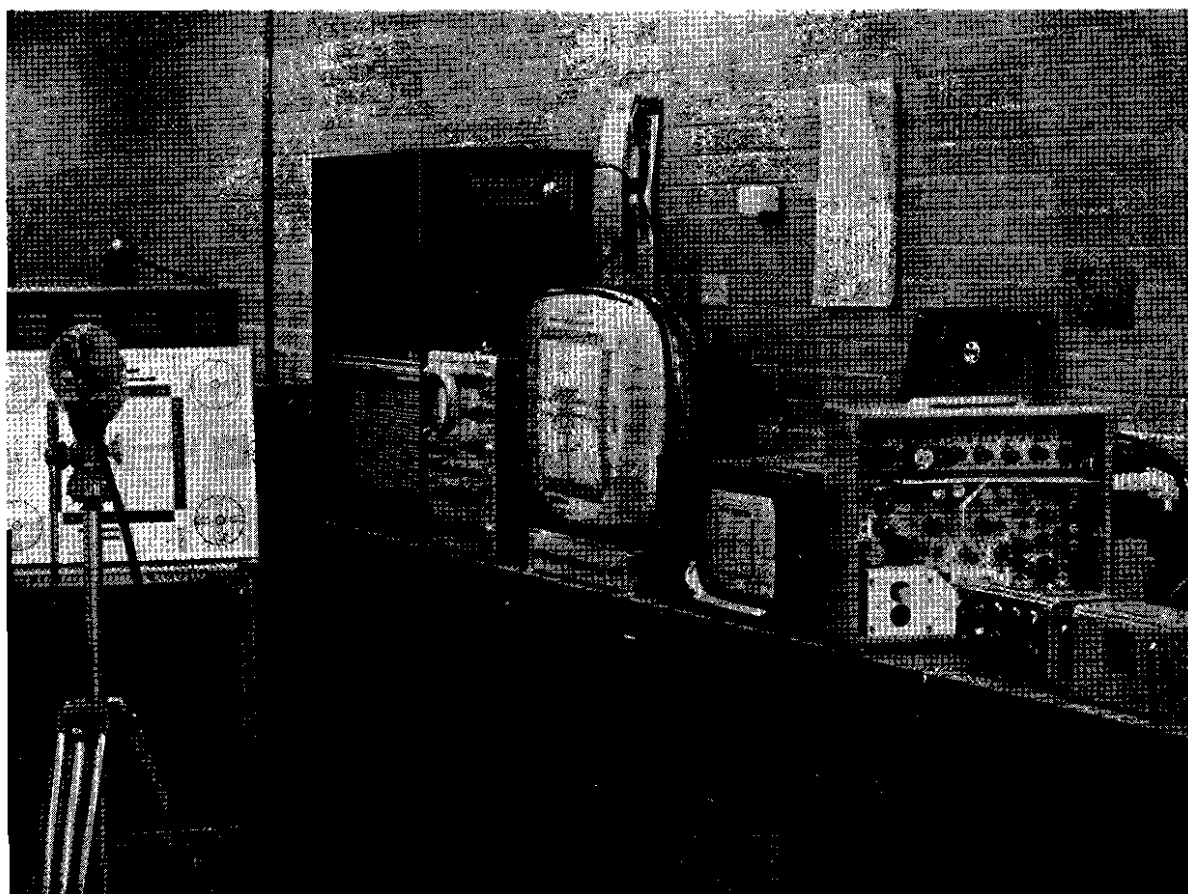
Areas in which television has been pressed into service with mixed results include: overflow lectures to adjacent rooms due either to a shortage of space or a shortage of staff; overcrowded laboratory demonstrations where, due to class size, not all students are able to effectively observe the demonstration; and also the use of television broadcasting to bring to students the authorities, equipment, and teaching aids not available to the ordinary classroom teacher.

Monash University has seen the need for television.

and an initial budget of £11,000 (jointly shared by the faculty of Medicine and the University) has been allocated for the purchase of suitable equipment particularly for use in the faculty of Medicine. Inasmuch as there is a great range of items from which to choose a means of private transport (push-bike to Rolls Royce), there is also a great range of equipment available for those who desire to enter the field of television. The first decision made was that the equipment must operate to the Australian standards for a television signal. Though this decision was based on technical factors, it is interesting to note that other Australian universities have made the same decision. This will allow an interchange of videotape recordings in the future. One of the effects of this decision was to remove from consideration the many types of industrial television cameras and monitors which, for reasons of economy, do not operate to the standards defined by the Australian Broadcasting Control Board.

At the other end of the scale educational television does not seem to warrant the sophistication of a fully-equipped television broadcasting studio, although it is necessary to have a studio and to use equipment which will operate to such standards as are achieved in these

Television equipment on test after delivery. Left to right: camera and test chart, off-air receiver, cathode ray oscilloscope, 24" classroom monitor, 14" precision monitor, camera control unit, camera control panel, and camera auxiliary unit.



stations. The immediate purchase for the medical faculty consists of two cameras and ten 24" monitors with all ancillary equipment such as lighting, stands, etc. (A three-camera television broadcasting studio installation can cost approximately £100,000 for equipment and wiring alone. This figure does not include telecine or videotape equipment.) One camera will be a very simple studio-type camera and the other will be capable of complete control from a remote point. Eight of the monitors are to be installed in the multi-discipline laboratories, but the other two monitors will also be available for mounting in the lecture theatres or any of the more specialized laboratories.

There are many uses for television in laboratories. It is feasible to demonstrate to a large number of students an experiment which could be beyond the skill of a student. With well-placed lighting and well-chosen camera positions it would be possible to give the students a better-than-front-row view of the experiment. Where an experiment is to be conducted by the students, a prior demonstration of the experiment on television can clarify the procedure and define more clearly those parts of the experiment where care has to be taken or particular results carefully watched. An experiment considered difficult because of the complexity of the procedure can be conducted step-by-step on television with the students progressing through the experiment as it is presented to them. Where the number of students is greater than the amount of equipment available for an experiment, a competent demonstration via television may be much more effective than for a group of students to be clustered around a demonstrator or other students as the experiment proceeds, and certainly much better than the withdrawal of the experiment from the syllabus.

One of the great advantages of television and the reason for the better-than-front-row view is its ability to magnify. Objects quite small to the naked eye can be made to fill the monitor screen. Quite often a demonstrator will find himself watching the monitor screen and noting some particular point of interest just because of the difficulty which would arise in trying to view the object directly. By making the camera equipment portable it is possible to take the cameras to research laboratories and view either equipment operation or experiments which otherwise might not be seen by the students. It may be the value of the apparatus in the experiment which places it beyond the area of student view. Its size, and the difficulty in gathering a sufficiently large number of students around it to note its operation, may make an effective demonstration on site difficult to achieve. There are other instances where a remote viewing by television is the only alternative to students not being able to fully appreciate the operation of equipment and experiments. Remote demonstrations such as these can be made to laboratory classes and they may be used to illustrate lectures.

Beyond the laboratory there is the problem of overflow lectures; of lectures being repeated a number of times to different groups of students with consequent timetable difficulties; the problems associated with various lecturers taking the same subject to different streams of students with the resultant possibilities of different emphasis to each stream. All these areas may be assisted in their difficulties by the use of television.

The immediate task is to become familiar with the

technical characteristics of television, with its resolution capabilities (the amount of detail it can transmit), with its colour rendition (into shades of grey), with its likely electrical interference problems amongst other things, and so see how it may be used to the best advantage in the medical faculty.

Subsequent to the provision of a basic two-camera television system is the need for a videotape recorder. Such an instrument allows for the temporary or semi-permanent storage of televised information. When provided it will be possible to pre-record difficult experiments for replay to students as frequently as is necessary. Experiments which are time-consuming in preparation, or where considerable time is taken for particular reactions to occur, may be placed on videotape, with any periods of uneventful waiting-time omitted from the tape. Lecturers may pre-record their lectures to save time in presenting the same lecture to different groups of students, or the first time that the lecture is given it may be simultaneously recorded and the recording replayed to later classes. Some lecturers in U.S.A., who were to be absent from their campus at different times, pre-recorded a series of lectures to be used during their absence.

Telecine (slides and movie film) equipment could be easily added to the system so that a lecturer could have a film or a set of slides reproduced on a picture monitor screen as required without the need to blackout the lecture theatre. It would be considerably expensive to provide each faculty with its own complete television system, particularly as many faculties would only require the use of such equipment spasmodically. A central television area with studio facilities, and connected to all faculties with due provision for control from the faculties of videotape recorders, film, and slide projectors, would provide a satisfactory and economical service. Each faculty would necessarily have its own camera equipment. By having a television centre as suggested faculties could be interconnected, and demonstrations conducted in one faculty could be viewed in one or more other faculties. The preparation of programmes for educational television broadcasts must always be kept in mind.

All this however is in the future, how near or how distant is not known. In the meantime television at Monash will prove it can provide a useful service, particularly by being placed in the hands of those who wish to use it experimentally and for their classes.

NAMING OF THIRD HALL OF RESIDENCE AND OF PUBLIC LECTURE THEATRE

The University's third hall of residence is to be known as Howitt Hall.

Alfred William Howitt (1830-1908) was an explorer, geologist, and anthropologist. His work in the anthropological field laid the foundation for the scientific study of the Australian aborigines.

The public lecture theatre is to be called The Alexander Theatre after Samuel Alexander, the distinguished Australian philosopher.

The Epstein bust of Alexander, recently purchased by the University, will be suitably placed in the foyer.

OPENING OF THE HARPER LABORATORY

The H. R. Harper Memorial Laboratory, a heavy power laboratory for the department of Electrical Engineering, was officially opened by Mr. W. H. Connolly, chairman of the State Electricity Commission, on August 10, 1964. In his speech Mr. Connolly said:

"I am grateful to Monash University for the opportunity to open this laboratory, the more particularly as I was unable, through illness, to participate last November in a function here to which I looked forward with much pleasure.

"In December, 1961, the assistant general manager of the State Electricity Commission, in discussion with Dr. J. A. L. Matheson, advised that the Commission had in mind making available to the University an amount of £5,000 per annum for five years in connection with the expenditure which would be involved in establishing the electrical laboratory of the engineering school. Dr. Matheson indicated that assistance of this nature would be preferable to receiving donations of equipment.

"At the time it was mentioned that the Commission may wish to have the name of its first chief engineer, the late Mr. H. R. Harper, associated with any gift that may be made (perhaps in the form of a plaque) to commemorate his service to Victoria and the Commission in the field of electrical engineering. In July, 1962, Commissioners formally approved a grant on the basis outlined for the purchase of a number of major items for the electrical laboratory, and expressed the desire that Mr. Harper's name be associated with this grant.

"It is very pleasing to all here that we have with us today Mr. Harper's two daughters — Miss Joan Harper and Mrs. Kirkhope — and his son, Jim.

"Mr. Harper came here from London with Mr. F. W. Clements (later chairman of the S.E.C. from 1931 to 1937) whose mission was the amalgamation of the two companies then supplying electricity in Melbourne — the Aleock Company and the New Australian Electric Lighting Company. This amalgamation was effected under the name of the Electric Lighting and Traction Company of Australia Ltd. — which later became the Melbourne Electric Supply Company, and which was taken over by the S.E.C. in 1930.

"Mr. Harper spent his first year in Victoria as superintendent of Richmond power station, the first major power station in Melbourne. He then transferred to the M.C.C. as its electrical engineer — a position which he held for 17 years. As city electrical engineer, Mr. Harper was responsible for the building of Spencer Street power station, and it was here that he carried out the first experiment in Victoria on the use of brown coal for electricity generation. Mr. Harper was one of the leading advocates for the development of Victorian brown coal as a basis for electricity supply. In an address in 1917 he said, 'There is a very urgent need in this State of a scheme for the production on the brown coal fields of electric power on a large scale. Such a scheme would attract new industries to Victoria. The attractiveness of unlimited supply of electric power should go a long way to make Victoria a flourishing manufacturing State, second to none in the Commonwealth'.

"He was, with Dr. Herman and Mr. Stone, a member

of the Advisory Committee on Brown Coal, the report of which to the Victorian Government in that particular year being largely instrumental in the decision to set up the S.E.C. Mr. Harper envisaged power stations on the brown coal fields of the Latrobe Valley, with transmission lines to Melbourne and other parts of the State, and this contains all the essential features of the State's electricity supply system as we now know it.

"The S.E.C. was set up in 1919, and Mr. Harper became its first chief engineer.

"He led a very small band of engineers way back in 1919 when a commencement was made to translate his ideas into actuality. He was, in those early days, able to have almost daily contact with the engineers working under him, and he fired their imagination with his enthusiasm.

"Mr. Harper was a president of the Institution of Engineers, Australia, a member of the Institution of Electrical Engineers, a fellow of the American Institute of Electrical Engineering, and a member of the faculty of Engineering at the University of Melbourne.

"We remember his warm and kindly personality and his infectious optimism, no matter how difficult the problem. We remember his lively and sprightly walk with head thrown back and cane swinging, and these characterized him to the end. We remember him as a lover of nature, as he had walked over most of Victoria as a member of the Wallaby Club. His other interests included the Rotary Club and, as a keen churchman, he was prominently associated with Church of England affairs.

"And so it is fitting that this laboratory should be associated with the memory of H. R. Harper, an eminent engineer, a man of vision, and an inspiring leader, who did so much for this State in laying the foundations and pioneering the development of this State's vast electricity supply enterprise".

Mr. W. H. Connolly plants a tree outside the Harper laboratory



OPENING OF THE UNION BUILDING

The University Union was opened on April 21, 1965, by His Excellency, Major-General Sir Rohan Delacombe, K.C.M.G., K.B.E., C.B., D.S.O., K.St.J., the Governor of Victoria. In the course of his address Mr. G. P. T. Sweeney, warden of the Union, declared:

"It is indeed a far cry from this modern Union hall back across the centuries to the time when young men who wished to learn gathered themselves at the feet of men of wisdom and there absorbed something of the knowledge and philosophy of those men; one of the interesting features of that age was the personal relationship which developed between those who taught and those who were being taught.

"Today at the great Universities of Oxford and Cambridge, which still attract university scholars everywhere, it is interesting to note that the emphasis is still very much on the relationship between teacher and undergraduate, on the relationship between the undergraduates themselves and what they can learn from each other. There in particular the accent is on the development of the individual rather than upon the mechanical accumulation of knowledge.

"In this present age we have of course a great many universities. It is estimated that something like half a million graduates go out into the world from them each year. The charge is sometimes levelled against the modern university that it is responsible for mass production of graduates and of people merely versed in particular skills. The criticism is that in producing graduates in such quantity something of the deeper purpose of education is lost.

"It is this deeper purpose that we must have constantly in mind in this University and in the services which this building has been erected to provide.

"When we think that this University is named after Sir John Monash, who was himself a man of very broad aims and stature, not only in education but in the world at large, then we think of an example at which this University should be aiming in the graduate.

"When we think that in this Union building we are to have a browsing library named after Sir John Medley we find, too, another man of broad learning whose scope of education encompassed many fields. These are the people whom the world needs.

"We may also think of the importance which has been placed on such a person as Pope John, not because of his academic abilities, or because of his scholarship, but because here was a man who brought to the world something that was needed, something which stressed peace and tolerance and the ability to live and let live in this world of ours.

"This Union building happens to be the end result of various interactions. Firstly the Murray report which, one might say, made legal the function of the Union in the university. The Murray report said, in effect, that Unions were part of universities. Then came the Australian Universities Commission which supported this opinion with cold hard cash to the extent of some £550,000. And supporting the Australian Universities Commission in doing this was our own Council, our Chancellor, and Vice-Chancellor in particular, who, from the inception, thought of this University and the University Union as being not two separate entities but an integrated body.

"So what can a modern university do? It can do what this University has done, and that is to encourage its staff members to take an interest not only in their students as students, but in their students as people. We saw, in 1961, our Vice-Chancellor do something which I am sure is unique in the history of Australian universities. He sent a letter to each member of the then very small staff encouraging them to help in the development of what he called "student activities" but which, as a result of such encouragement, it would be more proper to call "University activities", for certainly both staff and students do enter into the very wide range of activities which go under the name of the Union.

"Secondly, the University, in trying to encourage the development of the personality of the individuals who come here to study, can and has supported the establishment of halls of residence, for these halls give, par excellence, the opportunity for young men and women to meet and mix together, and learn something from each other of the business of living.

"Thirdly, and this has also been done, the University can develop a Union building, can develop Union facilities in which staff and students can together share interests in which there may come that meeting of minds that prompts tolerance and broad-mindedness and from which the ability to live with other people, whilst perhaps disagreeing with their views, becomes, too, a part of everyday existence.

"This then is the function of this building. Together under the one roof there is a wide range of facilities. We have in this hall the opportunities for drama, play-readings, debating, public meetings, and lectures. To the north we have an activities area in which people may engage in photography, art and pottery, billiards (which is always extremely popular), and table tennis; and they may play their musical instruments there as loudly as they like without inconveniencing other people. Beyond here we have, as yet undeveloped, a browsing library which will be a centre where students may come to read something of a very wide range of human endeavour and through such reading perhaps become more tolerant in their attitude to others."

BRIEF DESCRIPTION OF THE UNION

From the days of the Interim Council, one of the basic points agreed upon was that there should be one general committee responsible to the University Council for the all-round development of the non-academic aspects of University life. It was also agreed that there should be a 'University Union', providing facilities for the whole University, rather than a more restricted 'students' Union'. To enable the Union to have the best chance of operating as a central cohesive force for both students and staff, the original layout of the University was altered so that the Union building could be located at the focal centre of the University.

In 1961, the Union Board was established by resolution of the University Council. Its powers were broad and, deliberately, were not defined in detail. It was charged, in general, with the task of establishing a framework within which all aspects of student non-academic life would thrive. It was decided that the precise wording of statutes and constitutions should best

be deferred for several years, until the Board had gained more experience of the way in which the Union would develop.

There has been, understandably, a number of shifts of opinion with regard to the best way in which to develop and co-ordinate the facilities and activities which relate to extra-curricular life. But now, in Monash's fifth year of teaching, a strong body of opinion has been built up from the experience of the past four years, and there is an encouraging degree of agreement on the main principles to be incorporated into the organization of the Union.

There is approval for the original idea of having only one committee directly responsible to Council for all the activities usually associated with the term 'Union'. This committee, called the Union Board, is a nominated one, representative of the major interest groups in the University, rather than being an elected body.

The Board is primarily responsible for all major financial and planning decisions. Though such groups as the Students' Representative Council, Clubs and Societies Council, and the Sports Association submit budget requests to, and receive their annual grants from, the Union Board, in nearly all other ways they are independent of the Board and are charged with the respon-

sibility of developing their own fields of activity. Finally, to maintain good lines of communication, the warden of the Union is an *ex-officio* member of the executive committees of the three major groups with representation on the Union Board.

This direct relationship between the Union Board, the Students' Representative Council, and the Clubs and Societies Council is felt to be of great importance in the fulfilment of the broad aims of the Union.

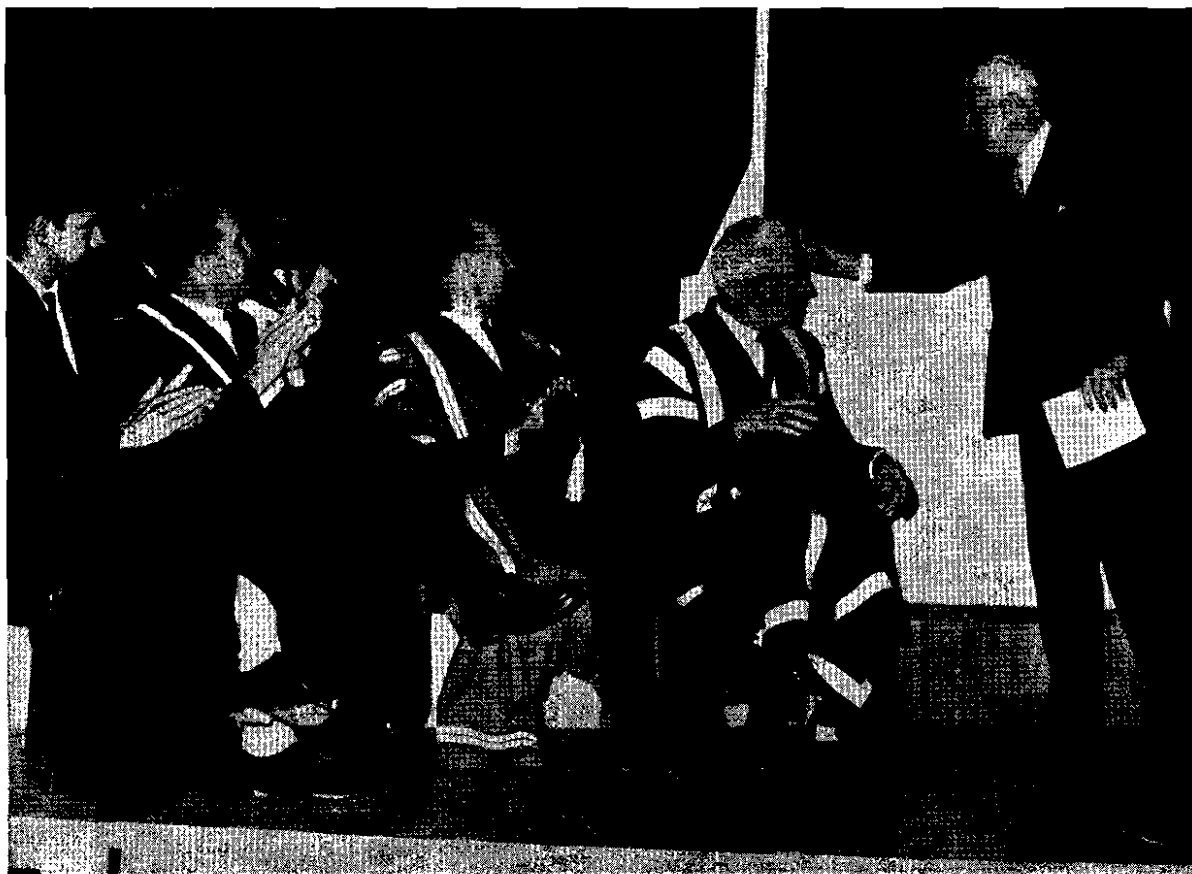
Communication is thereby established on a regular basis between those who provide the facilities and those who control their use.

This liaison has been found in practice to be indispensable to the effective functioning of the Union and to the realization of its primary aims.

It is in this spirit that the work is being continued in the interests of both the staff and student population of the University.

Perhaps the phrase University Union is the best expression of the way in which the function of the Union is being interpreted at Monash. It is intended that the Union will make an essential contribution to the life of the whole University, rather than simply provide commercial-type services and recreation areas for the use of its members.

His Excellency, Sir Rohan Delacombe, about to unveil a plaque in the Union building. From left: Mr. Tharam Dillon, president of the S.R.C.; Mr. G. P. T. Sweeney, warden of the Union; Professor W. A. G. Scott; Mr. F. H. Johnson, Registrar; and Sir Michael Chamberlin, Deputy Chancellor



SECOND GRADUATION CEREMONY

The University's second graduation ceremony was held in the University Union on Saturday, April 3, 1965. The degrees were presented by the Chancellor, Sir Robert Blackwood, in the presence of the Visitor, His Excellency the Governor of Victoria, Major-General Sir Rohan Delacombe. Professor J. D. Legge delivered the Occasional Address.

In the course of his address the Chancellor, Sir Robert Blackwood, said: "The growth of the University has been very rapid indeed, and the University's reputation is increasing with its size. Monash, in fact, is a source of great pride and satisfaction to all who have been concerned with it. Whilst its overall student population at present is only about a third of that of our sister university, the University of Melbourne, nevertheless, its new student intake this year is over 1,900, and this is near enough to two thirds of the new student intake into first year at the University of Melbourne. In fact, the intake into the faculty of Arts in this University is substantially the same as that at the University of Melbourne.

"I would like to mention though that, in spite of this very considerable rate of development, Monash has not achieved the objectives which the original Interim Council set out to achieve, and which it was expected to achieve, when it was set up. From 1961 onwards the

Miss Lo Siew Lin, first student under the Colombo Plan to graduate at Monash University



original plans of the Interim Council were to provide for University entry to all matriculants who desired it in Victoria. The plan that was set out was based on the assumption that the University of Melbourne would stabilize at 13,000 students, and it originally envisaged that this University would have 7,200 students attending it by 1965. We have only 4,250. Had we been able to adhere to the original plan and take 7,200 students this year, there would have been no shortage of places.

"I would like to say on behalf of the Council that we cannot accept the responsibility for this reduction. We as a Council, and in fact the whole staff of the University, have exerted every effort to cope with as many students as possible within the limits imposed, first of all by the maintenance of standards of instruction, which is required by our Act of Incorporation, and by the limits imposed by finance. The Interim Council asked for the capital sum of £3.2 million in 1959 and 1960 in order to establish the University adequately right from the beginning. We were given £1 million. The general effect of this was to reduce the planned student population.

"Failure to provide sufficient recurrent funds in 1962, when we found ourselves in difficulties in regard to the cost of running the University due to the fact that at the same time we were endeavouring to establish it and build up courses ahead, still further reduced the student capacity. And in this 1964-66 triennium the University's request for capital funds of £9½ million to provide the necessary buildings, laboratories, equipment, facilities, and so on, was met by the approval of a capital expenditure of only £5½ million, and our annual recurrent funds to run the University were approved at only 70% of the level requested. This, of course, resulted in still further reduction in student capacity to the present level.

"In particular, the complete lack of support in this triennium for the second stage of our library, and for further extensions to the Menzies building to house the faculty of Law which we had requested in this triennium and which were refused, will, I think, pose serious accommodation problems on this University in 1967.

"The Council, of course, is not unmindful of the fact that we have spent some £12 million to date establishing and equipping this University quite apart from the cost of operating it, and that Government support has been at a very high level. But if we are to meet our full obligation to the community we must be given the funds.

"When the Government announced its intention to establish a third university in Victoria, La Trobe University, my Council welcomed the news. It is urgent and it is necessary. But it takes time to accomplish these things, and it is not likely, indeed we cannot hope, that La Trobe will take up any substantial student load before 1968. There is no doubt also that the further proposals for improvements in tertiary education, recently announced, are also necessary to the future of tertiary education in Victoria. But, likewise, they will take some years to make a significant contribution to coping with the ever-increasing student number and demand for university places. In the meantime, of course, this University must hold the fort and carry the load. It is vital to us that no funds should be diverted from this purpose for other developments in tertiary education."

MONASH UNIVERSITY STAFF THEATRE

On November 2, 1964, the playreading group of the Monash Women's Association decided, at the suggestion of Dr. Dennis Davison, senior lecturer in English, to form a dramatic society. A fortnight later Chekhov's *Uncle Vanya* was performed as an acted-reading in the Vice-Chancellor's living-room — an audience of forty being pleasantly crowded in the dining-room. Later Fry's *The Lady's Not For Burning* was similarly staged. At the Christmas party, held in the Faculty Club, the staff theatre was invited to present a suitable entertainment, and Chekhov's hilarious one-acter *The Wedding* was given.

It was encouraging to find among Monash staff a widespread interest in a dramatic group: actors, producers, technicians, and audiences were, from the start, willing to play their roles, and an energetic committee was soon elected, which, under the presidency of Mr. Michael Schneider, lecturer in economics, has continued to offer a varied programme of activities.

On February 8, 1965, Giles Cooper's macabre satire *Everything in the Garden* was given as an acted-reading in the new Union theatre, and this has been followed by Pinter's *The Lover* and Ionesco's *The Bald Prima-donna*. Acted-readings in costume and make-up are proving popular with audiences and provide actors and producers with a good opportunity to gain experience without the complications which a full production demands. Although acted-readings are only a halfway-house to a complete production they can afford artistic satisfaction to both actors and audience.

However, the staff theatre does aim to mount full-scale production, and from April 6-10 Aristophanes' comedy *Lysistrata* was given in the Union theatre to large and appreciative audiences. Dr. Davison directed, Mr. Schneider stage-managed, Miss Cynthia Hutton costumed, and Miss Jennifer Bell decorated this first production, with the help of a devoted technical staff. Many talented actresses and actors revealed themselves, among whom it is here only possible to mention Mrs. Laura Brogan, who played the leading role. The next major production was *The Provok'd Wife*.

The staff theatre intends to remain a flexible group, ready to experiment with all forms of dramatic activity. The monthly playreadings (in comfortable armchairs, near a coffee urn) continue under the leadership of Mrs. Rita Meaney. During the May 1 weekend there was a drama school, essentially practical, arranged in conjunction with Mr. Harold Baigent of the Council of Adult Education, with tutors from the Union Repertory Company and National Institute of Dramatic Art (Sydney). Some members of the group attended a 14-day drama school in Melbourne in January, and more recently members have been invited to dress rehearsals by the Young Elizabethans and to informal meetings with the Emerald Hill Theatre Company. In fact the relations between the staff theatre, C.A.E., and Melbourne professional companies are proving most friendly and stimulating: Miss Jane Casson, for instance, has promised to give a poetry-reading at Monash.

An interesting activity, under the general heading of Intimate Theatre Evenings, began recently with a programme entitled *All Our Own Work*, in which members read their own poems and stories, or sang folk songs

to the guitar in an informal atmosphere — both performers and audience sat at small tables and sipped wine during the entertainment. Some forty people enjoyed the first programme, and it is hoped to arrange such items as *Author! Author!* (performances of plays written by members); French, German, and Russian acted-readings; evenings of poetry and music — Medieval, Elizabethan, American, Australian, etc.; mimes and dances; revue sketches. In short, Intimate Theatre aims to stimulate all kinds of theatrical experiments in a sympathetic ambience.

A staff theatre can only exist if members and audience enjoy themselves presenting or attending plays. But, in addition, a University group is conscious of being able to contribute to the social life of the staff and to the general culture of staff and students. M.U.S.T., to use the inevitable initials, would like to achieve the Shakespearean combination of being both "virtuous" and enjoying "cakes and ale" — the metaphor, as Canon Chasuble might say, is drawn from *Twelfth Night*.

PROPOSED GRADUATE ASSOCIATION

On Friday, April 23, about 30 graduates attended a meeting to discuss the establishment of a society of Monash graduates. An interim committee was elected to pursue the matter further. The committee members are as follows:

Miss Barbara Woodberry, 17 Clarendon Avenue, Huntingdale; 57 5619
Miss Adrienne Holzer, 32 Great Valley Road, Glen Iris; 29 4251
Miss Nonie Keogh, c/o Deakin Hall; 544 3087
Mr. Ian Dudgeon, 30 Testar Grove, Caulfield; 52 2274
Mr. Tony Austin, 15 Holzer Street, Sandringham; 98 7011
Mr. David Turner, 17 Montalto Avenue, Toorak; 24 5510
Mr. David Hutchings, 3 Sandham Court, Elsternwick; 53 3291

It was decided that three of the above committee members should visit Mr. Bill Berry, secretary of the Melbourne University Graduate Union and warden of Graduate House, with a view to acquiring information about their organization.

It was also decided that letters should be sent to other graduate associations in Australia and overseas.

ADDRESSES OF GRADUATES

For the purposes of the distribution of this magazine, and also for notification of Council elections, the University should be notified of any changes of name and address. Notification of these should be sent to Mr. Norman Perry, secretary to Council.

UNIVERSITY STAFF

FULL-TIME DEANS

DEAN OF THE FACULTY OF ARTS

Professor G. R. Manton, who was a major scholar of St. John's College, 1931-34, and Parson University scholar, 1933-34, graduated as Bachelor of Arts in the University of Cambridge in 1934. He has held lecturing appointments in Greek and classics at the Universities of London and Sydney. He has been professor of Classics in the University of Otago since 1949 and has been dean of the faculty of Arts in that University since 1962.

Professor Manton, as well as having taught most branches of the classics (including Greek and Roman literature, history, art, and archaeology) at all levels in the Universities of London, Sydney, and Otago, has since 1949 had a broad administrative experience in matters relating not only to university government but also to the development of schools and other educational bodies in New Zealand.

Professor Manton's research experience and interests have centred mainly on textual criticism, in the interpretation of classical texts, especially Greek tragedy, and in Greek mythology. He has contributed four papers to classical journals and when a Carnegie travelling fellow in 1960 read a paper on Aeschylus *The Seven against Thebes* at the annual meeting of the Classical Association at Southampton and subsequently conducted seminars on the same play at the Institute of Classical Studies in the University of London. He has an edition of the play in preparation for publication by the Oxford University Press.

Professor Manton is married with three children.



Professor G. R. Manton



Professor K. C. Westfold

DEAN OF THE FACULTY OF SCIENCE

Professor K. C. Westfold has accepted the invitation of the University Council to take office as full-time dean of the faculty of Science.

Professor Westfold took up his appointment to the foundation chair of Mathematics at Monash in 1961. Following the appointment of the first professor of Pure Mathematics the title of Professor Westfold's chair

was changed to Applied Mathematics.

Since 1963 Professor Westfold has, in addition to the duties of his chair, been dean of the faculty of Science, a position to which he was elected by members of that faculty.

As full-time dean, Professor Westfold relinquishes the chairmanship of the department of Mathematics. He will, however, continue to lecture and supervise research.

Professor Westfold was educated at Melbourne Church of England Grammar School. He entered Trinity College in the University of Melbourne on major entrance and senior government scholarships and graduated as Bachelor of Arts with honours in mathematics in 1942, Bachelor of Science in 1943, and Master of Arts in 1946. After taking his first degrees he was engaged in teaching and research in the Mathematics department of the University of Melbourne.

He was appointed a research officer in the C.S.I.R.O. division of radiophysics, Sydney, where he was engaged in theoretical work on solar radiation. From 1949 to 1951 he was at the Queen's College, Oxford, on a C.S.I.R.O. overseas studentship working under the supervision of the late Professor E. A. Milne, F.R.S., and Professor S. Chapman, F.R.S., on theoretical problems of radio astronomy for which he was awarded the D.Phil. degree. From 1952 to 1960 Professor Westfold was a member of academic staff of the University of Sydney as senior lecturer and reader in the department of Applied Mathematics. In 1958 he spent a period of study leave at the California Institute of Technology and was active in getting two new 90 ft. radio telescopes into operation at the Owens Valley Radio Observatory, and carried out fundamental investigations on the polarization of radiation and the synchrotron process for the emission of radiation.

Professor Westfold is married with four children.

APPOINTMENTS TO CHAIRS

The following appointments have been made since the last issue of the Gazette:

CHAIR OF STRUCTURAL ENGINEERING

Professor N. W. Murray graduated as Bachelor of Engineering in the department of Civil Engineering at Adelaide University in 1948. In 1952 he was awarded the degree with first-class honours and after a further three years' postgraduate study, was awarded the degree of Doctor of Philosophy in the University of Manchester. He was elected an Associate Member of the Institution of Civil Engineers (London) in 1960, and of the Institution of Engineers Australia in 1961.

Professor Murray has had teaching experience in the department of Civil Engineering in the University of Manchester, and in the department of Mechanical Engineering in the University of Sheffield. Since his appointment to this University in 1961 as senior lecturer in engineering, Professor Murray has been acting chairman of the department of Civil Engineering with the administrative responsibility of setting up and running the department. He has in addition designed the heavy

laboratories, stage III, and as well as a full teaching load over the past two years, has participated as a member of the Union Building Committee, the Site Works Committee, Faculty Club Committee, and the Faculty of Engineering Executive Committee. He has been an active consultant to industry and has also been coach of the Monash rugby team.

His main research interests are in the fields of structural and stress analysis with emphasis on stability of frameworks and shell theory.

Professor Murray is married with three children.



Professor N. W. Murray



Professor J. W. Bennett



Professor J. E. Isaac



Professor H. D. Rankin

relations at the University of Melbourne. He has been principal of the Summer School of Business Administration at that University, and also adviser on wage policy to the Government of Ghana for the International Labour Office.

Prior to his appointment at Monash, Professor Isaac was professor of Economics in the University of Melbourne.

He has published a number of articles, principally on industrial relations matters and wages policy.

Professor Isaac is married with three children.

CHAIR OF ACCOUNTING

Professor J. W. Bennett graduated B.Com. with first-class honours from the University of Melbourne in 1956. During 1957 he was senior tutor in accountancy at the University of Melbourne. From January, 1958 he was appointed lecturer in accounting in the University of Adelaide. He was granted a Fulbright scholarship and study leave in 1960-61 to take part in the Sloan teaching internship programme at Massachusetts Institute of Technology. This programme included attendance at regular graduate classes, visits to industrial, commercial, financial, and governmental institutions in the United States and Europe, and weekly seminars with visiting speakers. While at M.I.T., in addition to the study programme, Professor Bennett gave a course in management accounting. On his return to Adelaide he was promoted to senior lecturer. Professor Bennett is a member of the Australian Society of Accountants and of the American Accounting Association.

Professor Bennett's current research interests lie in the area of investment planning and the cost of capital for public companies.

Professor Bennett was previously senior lecturer in accounting at this University. He is married with two children.

SECOND CHAIR OF ECONOMICS

Professor J. E. Isaac graduated B.A., B.Com. from the University of Melbourne and Ph.D. from London University in 1949 for a thesis entitled "Economic Analysis of Wage Regulation".

In 1956 he was a Rockefeller fellow at Harvard and Yale Universities, and in 1959 was reader in industrial

CHAIR OF CLASSICAL STUDIES

Professor H. D. Rankin graduated at Trinity College, Dublin, with first-class honours in classics. He has held appointments as assistant lecturer in classics at Queen Mary College, University of London, from 1955-58 and in the University of Sheffield from 1958-59. From 1950-64 he was a lecturer in classics at that university.

Professor Rankin has taught and examined in Greek and Latin languages and literature at all university levels embracing a wide variety of classical authors. His principal research interest is in the study of Plato and he has recently completed a manuscript entitled "Plato and the Individual". He has also published a number of articles on Latin topics.

Professor Rankin is married.

CHAIR OF PAEDIATRICS

Professor A. C. L. Clark graduated M.B., B.S. in 1951 from the University of Melbourne and M.D. in 1956 when he was awarded the David Grant medal.

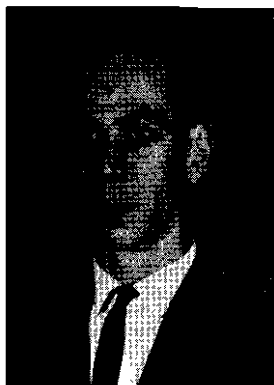
Professor Clark's formal teaching experience began as demonstrator in pathology at the University of Melbourne in 1955, and as clinical tutor in medicine, Royal Melbourne Hospital, in 1956. He became interested in haematology in 1955, and his appointments in various hospitals in the United Kingdom and the United States were chosen to provide experience and research opportunities in this field. In America his studies covered a wide range of haematological disorders in childhood.

Professor Clark returned to Melbourne in 1960 and from 1962-64 he was first assistant in the department of Child Health in the University of Melbourne. With Professor Collins, he took part in the planning and

modifications of the teaching of paediatrics to students of the University of Melbourne since the foundation of the department of Child Health.

Since his return to Australia Professor Clark has undertaken a country-wide study of the treatment of acute leukaemia in children, an investigation carried out under the auspices of the Australian Cancer Society. His work has also included research on the cytochemistry of leukaemic cells. He is at present engaged in the preparation of a monograph on the chemotherapy of malignant diseases in children.

Professor Clark is married with four children.



Professor A. C. L. Clark Prof. U. G. E. Hammarström

CHAIR OF LINGUISTICS

Professor U. G. E. Hammarström is a graduate of the University of Uppsala and has directed the Phonetics department of the old-established Swedish University of Uppsala since 1936, where he was also docent and examiner in phonetics.

He is a member of the Committee of the International Society of Phonetic Sciences. Professor Hammarström has held appointments as acting professor and director of studies in Romance languages in the University of Uppsala and as acting professor and director of studies in phonetics in the University of Bonn. He has lectured in the Universities of Strasbourg, Cologne, and Frankfurt and has engaged in research in the Phonetics departments of the Universities of Paris, Strasbourg, Bonn, Edinburgh, and the Associação Academica de Coimbra (Portugal).

In addition to phonetics his main interests are in general and applied linguistics, dialectology, experimental phonetics, and Romance languages, especially Portuguese and French.

Professor Hammarström is very interested to investigate in Australia the mixture of languages that has resulted from the immigration programme and will apply the most modern methods of phonetic research to the language problems of New Australians.

He is married with two children.

CHAIR OF MUSIC

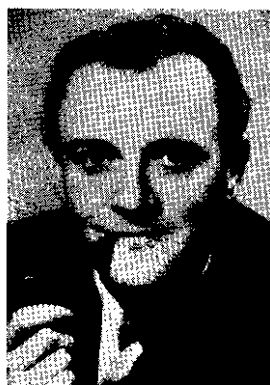
Professor T. A. Jones graduated B.A. with first-class honours and gained the University Medal in Music in the University of Sydney in 1954, and M.A. with first-class honours from the same university in 1959 for a

thesis on the aboriginal music of Arnhem Land, Northern Territory.

From 1955-56 he was a Saltonstall fellow, studying at Harvard University, U.S.A., and from 1956-58 he was a Sydney Moss scholar, studying first at King's College, Cambridge, and then at the Royal College of Music, London. He was senior lecturer in music at the University of Western Australia, an appointment he held since 1960.

Professor Jones has carried out research in aspects of European music, but his main interests lie in the general field of ethnomusicology (including oriental music, folk music, and the music of pre-literate societies) and in Australian aboriginal music in particular. He has published a great number of articles and is at present nearing completion of a book entitled "The Didjeridu: An Ethnomusicological Study of the Techniques and Function of the Australian Aboriginal Wooden Trumpet and Related Instruments Throughout the World". The only way to fully comprehend the elaborate techniques used in playing the didjeridu was to learn to perform them himself. Over the last ten years he has acquired a degree of mastery over the instrument and has written a number of articles about it.

Professor Jones is married with two children.



Professor T. A. Jones

Professor P. L. Waller

SIR LEO CUSSEN CHAIR OF LAW

(The chair has been named after Sir Leo Cussen (1859-1933), a most distinguished Victorian advocate and judge.)

Professor P. L. Waller completed the requirements for the degree of Bachelor of Laws with honours in the University of Melbourne in 1955. The following year he was awarded an extension of the Dafydd Lewis scholarship (a scholarship he had held during his undergraduate course) to read for the degree of Bachelor of Civil Law at Magdalen College, Oxford, which he was awarded with first-class honours in 1958.

Professor Waller was senior lecturer in law in the University of Melbourne and was at the University of Pennsylvania on the Bicentennial fellowship in criminal law and administration awarded him for 1964-65. In 1964 he was also a part-time lecturer in law at Monash.

His main interest is in the criminal law, particularly in the questions of mistake and criminal responsibility and of double jeopardy. Some of the results of his

research in criminal law problems are embodied in a book, "Cases and Materials in Criminal Law", written in collaboration with Professor Peter Brett. He has investigated the introduction of English law into Australia and is interested in and has investigated the various methods of law teaching; he is also interested in questions in the law of torts.

Professor Waller, who is married with two sons, took up his appointment in June this year.

THIRD CHAIR OF PURE MATHEMATICS

Professor Z. Janko studied mathematics in the University of Zagreb (Yugoslavia), taking his first degree there in 1956 and his Ph.D. in 1960. In 1961 he achieved a higher doctorate.

Before coming to Australia in April, 1962, he had had six years' experience teaching mathematics to seventeen- and eighteen-year-old students at various Yugoslav schools. From October, 1961, to March, 1962, he was the guest of the German Academic Exchange Service and worked in the Universities of Frankfurt (am Main) and Tübingen.

Professor Janko is an algebraist specializing in the theory of finite groups. His recent discovery of a new finite simple group is one of the major mathematical achievements of the past year. Professor Janko is at present a fellow in mathematics in the Research School of Physical Sciences at the Australian National University.

Professor Janko, who is married with two children, will take up his appointment at the end of August.



Professor Z. Janko



Prof. R. van der Borcht

CHAIR OF APPLIED MATHEMATICS

Dr. René van der Borcht is a graduate of the University of Louvain, Belgium, where in 1943 he took his first degree and in 1950 was awarded the degree of Docteur en Sciences.

Dr. van der Borcht has held chairs of Mathematics in the Universities of Indonesia and Natal. He has lectured at undergraduate level in both pure and applied mathematics to arts, science, and engineering students and at both undergraduate and postgraduate level on the following topics: relativity theory, electromagnetic theory, supersonic aerodynamics, neutron diffusion theory, stellar structure and stability. He is at present associate professor of Mathematics in the School of

General Studies, Australian National University.

His research interests are mainly in the field of stellar structure and the theory of stability of stars.

Dr. van der Borcht is married with one child and will take up his position in August.

SECOND CHAIR OF PURE MATHEMATICS

Professor J. B. Miller graduated as B.Sc. with first-class honours from the Sydney University in 1950. He was awarded the J. B. Watt travelling scholarship and entered St. John's College, Cambridge, in the same year. He graduated B.A. in 1952 and gained a Ph.D. from the University of New England in 1958.

He has held appointments as both science and mathematics master at St. Peter's College, Adelaide (1953-54), lecturer in mathematics, University of New England (1955-58), and lecturer (May, 1958-60) and senior lecturer (1960-64) at Canberra University College which, in October, 1960, became the School of General Studies of the Australian National University. In 1962, having been awarded a Fulbright travel grant, he spent seven months as a research associate in the department of Mathematics at Yale University. In the same year he attended the International Congress for Mathematicians at Stockholm and worked for four months in the Mathematical Institute of Oxford.

His principal research interest is in functional analysis, with algebra and classical analysis as subsidiary interests. More generally he is interested in Banach algebra and operator theory.

Professor Miller is married with one child.



Professor J. B. Miller

DIRECTOR OF HEALTH SERVICE

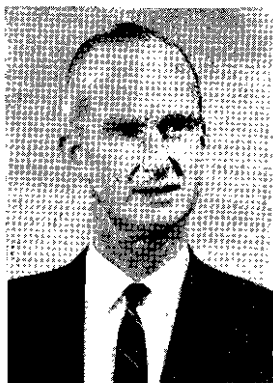
Dr. C. E. Sawrey, after graduating as Bachelor of Medicine and Bachelor of Surgery in the University of Melbourne in 1937, held appointments as resident medical officer, Alfred Hospital, in 1938, and resident medical officer (1939) and Registrar (1940) at the Royal Children's Hospital, in Melbourne. He was on active service from January, 1941, to November, 1945. He held the post of medical superintendent of the Royal Children's Hospital from 1946 to 1949. Prior to his appointment to Monash he was a member of the Hamilton medical group as a general practitioner and physician.

Dr. Sawrey is married and has five children.

WARDEN OF FARRER HALL

Monash's second hall of residence is to be known as Farrer Hall.

William James Farrer (1845-1906) pioneered scientific wheat breeding in Australia. Born in England, he was educated at Christ's College and Pembroke College,



Dr. C. E. Sawrey



Mr. M. G. A. Wilson

Cambridge, and migrated to Australia in 1870.

Among his outstanding achievements were the breeding of drought resistant (Federation variety) and smut resistant wheat. These developments resulted directly

in a significant expansion of the Australian wheat industry. Mr. Farrer was a contemporary of Alfred Deakin after whom the first hall of residence at Monash is named.

Farrer Hall succeeded in admitting its first group of students at the beginning of May. By the end of this year it should reach its capacity of one hundred and eighty-seven students. The building has been designed by Chancellor and Patrick as one of an integrated group of three halls of residence in the north-east corner of the campus.

The warden of Farrer Hall is Mr. M. G. A. Wilson, senior lecturer in geography at Monash since 1964.

Mr. Wilson graduated B.A. in 1953 and M.A. in 1955 from Auckland University College, New Zealand. In 1955 he was appointed teaching fellow, later lecturer, at Newcastle University College. From 1957-58 he attended the University of Wisconsin, graduating M.A. in 1959. Prior to his appointment to Monash last year he was lecturer in geography at the University of Melbourne.

Mr. Wilson is married with two children.