

MONASH UNIVERSITY



Report
of the
Council

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REPORT OF THE COUNCIL FOR 1970

In accordance with section 41 of the *Monash University Act 1958*, I submit the annual report of the Council of the University for 1970.

1. THE COUNCIL

The Council held thirteen meetings during the year.

At graduation ceremonies in the course of the year the following honorary degrees were conferred:

Doctor of Engineering:	Walter Eric Bassett
Doctor of Medicine:	Maurice Rossie Ewing
Doctor of Letters:	Ursula Hoff
Doctor of Laws:	Albert Ernest Monk
Doctor of Science:	Rutherford Ness Robertson
Doctor of Science:	Alan Walsh
Master of Science:	James Leslie William

Changes in the membership of Council were as follows: The periods of office of Professor W. H. Frederick and Mr B. B. Wentworth, who had respectively represented the faculty of Education and the graduate students, came to an end in June. The faculty of Education elected Mr R. J. L. Hawke and the graduate students elected Dr R. B. Nethercott to the vacant places. The second graduate representative, Mr M. J. Hubbert, resigned in June on taking an appointment overseas and his place was taken by Mr L. M. Schafe. In October Mr R. C. Fordham was appointed to the vacancy caused by the resignation in 1969 of Dr H. A. Jenkins, one of the three Parliamentary representatives. In November Mr B. A. Grant was elected by the faculty of Arts to take the place of Dr F. R. Arnott who had resigned in September to take up his appointment as Archbishop of Brisbane. The Hon. Mr Justice G. H. Lush was elected by the faculty of Law for a further four years at the end of his first term of office.

Steps were taken in 1970 to provide for two student representatives on Council instead of one as hitherto. It is hoped that the necessary legislation will become operative early in 1971. Further changes in the constitution of Council have also been agreed for recommendation to the State government but amendment of the *Monash University Act* will be necessary before these can be effective.

In November Council again elected Sir Douglas Menzies as Chancellor and Dr F. G. Lennox as Deputy Chancellor for a further three years commencing in March 1971.

Council noted with pleasure in the New Year honours list the creation of Mr B. W. Hone as a Knight Bachelor.

2. DEVELOPMENT OF SITE AND BUILDINGS

The following buildings were completed and taken into use: science south and extension of medical school, to provide accommodation for the departments of Botany, Psychology, Anatomy and Physiology; science north building, to house the departments of Mathematics and Information Science and the computer centre; extensions to the Union building for the bookshop, banks, student services, games areas, dining facilities and faculty club; two additional squash courts for the sports centre.

The structure of the main part of Robert Blackwood Hall was completed and a start was made on the construction of the second stage which provides a foyer and display area on the south side.

Construction commenced on the medicine-biochemistry building consisting mainly of teaching laboratories on two floors, and Roberts Hall, the first of the new halls of residence.

Plans were completed to tender stage for Richardson Hall, the second of the new halls of residence.

Sketch plans were developed for the extension to the Hargrave Library; the first stage of the extension to the Robert Menzies School of Humanities; engineering building 6, a three-storey building containing accommodation for the departments of Electrical, Materials and Chemical Engineering and including a high-voltage laboratory.

Extension of the University's roads and car parks, and reticulation of water, electricity and master-heating services continued. Work was completed on the road from the new main entrance from Wellington Road north to Normanby Road and on a new access road to science north and engineering buildings.

3. ADMINISTRATIVE MATTERS

Legislation

In 1970 five amending statutes of the University were made by Council and came into force. Thirty-four new or amending regulations were also made by Council pursuant to the statutes during the year.

University Publishing

The University's official publications, all of which are growing in size, appeared again at the appropriate times throughout the year. In addition to the two volumes of the Calendar, the Report of Council, the Gazette and the seven Faculty Handbooks were published.

The Publications Committee of the Professorial Board continued to develop the University's academic publishing programme. The committee met more frequently and dealt with an increasing number of applications for publishing assistance from members of staff. Its grants during the year enabled a number of important works of scholarship to be published. At the end of 1970 the committee started an investigation into extending the arrangements for its publishing programme.

Monash Associations Liaison Committee

The Monash Associations Liaison Committee is a newly-formed committee of delegates from individual University Associations interested in and working for the University.

MALC succeeds the former Monash University Association. Its objectives are:

- (a) to provide an opportunity for parents and others interested in Monash University to associate themselves more closely with the University,
- (b) to encourage contact between members of the University and members of the community for their mutual benefit,
- (c) to assist with specific projects associated with the University and help raise funds for specific University purposes.

During 1970 several successful functions were held including a parent orientation day, several public lectures, a University banquet and a dinner for parents of first year students.

Safety

In mid-1970 a safety officer was appointed to provide a safety service for the University, and to fulfil the duties of secretary to the Safety Committee which is responsible to Council. The National Safety Council of Australia (Victorian Division) commenced safety surveys within the University, and the combination of these two services will progressively raise safety standards.

4. STAFF APPOINTMENTS

Full-time academic staff at 31 December numbered 721, an increase of 67 above the figure for December 1969.

The table on page 7 shows staff by faculty and grade at 31 December 1970, the numbers in brackets indicating those who took up appointment at Monash in 1970, including short-term appointments.

The number of resignations was substantially lower than in recent years. Academic staff who left Monash University during 1970 to take up other appointments or at the end of visiting appointments were:

Professors	1
Visiting Professors	5
Readers	3
Associate Professors	1
Senior Lecturers	17
Lecturers	9
Senior Tutors	3
Senior Teaching Fellows	35
Teaching Fellows	15
	<u>89</u>

Those who resigned included Professor D. C. Jackson, first occupant of the Sir John Latham Chair of Law, who was appointed to a chair of Law in the University of Southampton. Two readers and three senior lecturers went to chairs in other universities.

(The resignation, to become effective in 1971, of Professor R. Selby Smith, dean of the faculty of Education, was received at the end of 1970. Professor Selby Smith has accepted an invitation to become principal of the Tasmanian College of Advanced Education.)

Two visiting professors (rotating) held appointments during 1970.

Of the full-time academic staff who took up appointment during the year, 102 (of whom 91 had taken their first degree in Australia and 11 overseas) were recruited from Australia and 56 (of whom 17 had taken their first degree in Australia and 39 overseas) were recruited from overseas.

Administrative staff in the grades of administrative assistant and above increased by 5 in the central administration to a total of 74 and in the academic departments and ancillary services by 6 to a total of 25.

In the University library, graduate and other staff with formal library qualifications totalled 61, the same number as in 1969.

Total full-time staff of the University increased from 2,110 in December 1969 to 2,317 in December 1970.

The following professors took up their appointments in 1970:

Professor A. K. Collins, B.A. (W.A.), M.Ed., Ph.D. (Corn.), Dip.Ed. (Melb.), M.A.Ps.S. (Administration)

Professor H. W. Garlick, M.D., B.S. (Melb.), F.R.C.P., F.R.A.C.P. (Medicine, part-time)

Professor M. E. Holman, M.Sc. (Melb.), D.Phil. (Oxon.), D.Sc., F.A.A. (personal chair in Physiology)

Professor D. A. Lowther, B.Sc. (Leeds), Ph.D. (Lond.) (personal chair in Biochemistry)

Professor K. Morsztyn, M.E.E. (Lwow), C.T.S. (Gliwice), M.I.E. Aust., M.I.E.E.E. (Electrical Engineering)

Professor P. W. Musgrave, M.A. (Cantab.), Ph.D. (Lond.) (Education)

Professor P. G. Nash, LL.B. (Hons.) (Melb.), LL.M. (Tas.), Barrister-at-Law (Vic.) (The Henry Bournes Higgins Chair of Law)

Professor M. D. Neale, M.A., Dip.Ed. (N.Z.), Ph.D. (Birm.) (Education)

In addition Dr C. J. Bellamy, director of the computer centre, was promoted to professorial status.

The following professors who were appointed in 1970 will take up duty in 1971:

Professor R. W. Cumming, B.E. (Syd.), A.M. (Mich.), M.E. (Melb.) (Psychology)

Professor I. D. Gross, B.A., B.E.E. (N.Y.), M.S.E.E. (S.Cal.), Ph.D. (Case Western) (Marketing)

Professor M. I. Logan, B.A., Dip.Ed., Ph.D. (Syd.) (Geography)

Professor F. van Laere, Lic.Phil.L. (Brussels) (French)

Dr G. A. M. Scott (Botany) took up a Monash University Senior Research Fellowship early in 1970; nine other research fellowships and forty-two more junior full-time research posts were filled.

The University records with regret the deaths in 1970 of Professor A. King, who retired from a chair of English at the end of 1969, Mr D. C. Hall of the department of Biochemistry, Mr A. E. Atkinson of the library, Mr N. Field of the department of Botany, Mr J. Fletcher of central services, Mr A. Perriment of the department of Psychology and Mr S. Zalesky of the department of Politics.

FULL-TIME ACADEMIC STAFF (as at 31 December)

	Arts	Economics and Politics	Educational*	Engineering	Law	Medicine	Science	Total
Deans	1	1	1	1	—	1	1	6
Professors	17 (1**)	10	5 (2)	7 (1**)	4 (1)	17 (1**)	17 (2**)	77 (8)
Readers	5	2	—	1	2	4 (1)	9	23 (1)
Associate professors	7	1	—	4	—	8	2	22
Senior lecturers	47 (3)	26 (6)	18 (1)	23	15 (1)	30	46 (1)	205 (12)
Lecturers	58 (9)	28 (2)	10 (3)	21 (7)	9 (3)	28 (5)	47 (9)	201 (38)
Senior tutors	15 (1)	—	1	— (1)	—	1 (1)	—	17 (3)
Senior teaching fellows	20 (7)	21 (4)	7 (1)	4 (4)	7 (3)	21 (22)	25 (12)	105 (53)
Teaching fellows	27 (14)	25 (18)	2 (1)	— (1)	4 (3)	2 (3)	5 (3)	65 (43)
Total	197 (35)	114 (30)	44 (8)	61 (14)	41 (11)	112 (33)	152 (27)	721 (158)

*Includes Higher Education Research Unit.

**Includes visiting professors.

(The numbers in brackets indicate those who took up their appointments at Monash in 1969.)

5. ACADEMIC DEVELOPMENTS

The following degrees and diplomas were conferred by the University at graduation ceremonies in 1970, the final column indicating the total number of degrees and diplomas awarded since the foundation of the University.

	<i>Male</i>	<i>Female</i>	<i>Total</i> <i>1970</i>	<i>Total</i> <i>1961-70</i>
Bachelor of Arts	186	270	456	1804
Bachelor of Arts with Honours	47	33	80	224
Master of Arts	7	4	11	39
Bachelor of Economics	242	26	268	781
Bachelor of Economics with Honours	25	2	27	101
Master of Economics	9	1	10	18
Bachelor of Education	21	4	25	64
Bachelor of Engineering	52	—	52	132
Bachelor of Engineering with Honours	53	—	53	170
Master of Engineering Science	10	—	10	23
Bachelor of Jurisprudence	80	9	89	251
Bachelor of Laws	74	4	78	130
Bachelor of Laws with Honours	4	—	4	10
Master of Laws	—	—	—	3
Bachelor of Medical Science	—	—	—	9
Bachelor of Medical Science with Honours	12	—	12	26
M.B., B.S.	84	16	100	356
M.B., B.S. (Honours)	21	7	28	70
Doctor of Medicine	—	2	2	5
Bachelor of Science	99	39	138	419
Bachelor of Science with Honours	81	15	96	298
Master of Science	16	4	20	73
Doctor of Science	1	1	2	2
Doctor of Philosophy	52	9	61	197
Master of Administration	—	—	—	—
TOTAL DEGREES	1176	446	1622	5205
Diploma in Education	190	161	351	1175

1970 ANNUAL EXAMINATION STATISTICS

The first year pass rates still show a general rise over the period covered by the statistics.

In those faculties with set courses where students are generally

required to pass in the whole of the year's work before progression to the next year, namely Education, Engineering and Medicine, the pass rates have risen steadily, and continue to rise. In the other faculties, there was, in 1969, a fall in the pass rate which, as suggested in last year's report, may have been for reasons other than academic. It can be seen, however, that in 1970 there has been a recovery with the pass rates rising again, although it will not be known whether this is a return to the upward trends evident in 1968 until the results for 1971 have been analysed.

PASS RATES (per cent)
(For first-year full-time students)

	1964	1965	1966	1967	1968	1969	1970
(a)							
Arts	57	70	67	74	80	77	78
Economics and Politics	61	70	77	85	83	76	76
Law	60	71	76	72	80	72	80
Science	60	78	88	89	90	86	89
(b)							
Diploma in Education	84	88	90	90	89	92	92
Engineering	55	70	70	84	74	75	84
Medicine	64	84	89	91	97	96	99

Note: For the purposes of this table, students are regarded as having passed if—

- (a) they have passed more than half the subject or units taken except that those taking three subjects are regarded as having passed the year only if they have passed all three subjects; and
- (b) they passed all subjects or failed in one or two subjects but were granted passes in the year as a whole and continued into the next year of the course.

VICE-CHANCELLOR'S REPORT

The year 1970 was our tenth year of operation. After the establishment of the Interim Council in 1958 and the passing of the *Monash University Act* in April of that year less than three years was spent in initial preparations; and the University was ready to be opened by Sir Henry Bolte on 11 March 1961 and to receive its first students on the 13th.

In accordance with the original intention to establish a university with a clear bias in the direction of science, medicine and technology the first buildings were designed to accommodate physics, chemistry and mathematics. But at the insistence of the Australian Universities Commission teaching was from the outset also conducted in subjects in the faculties of Arts and of Economics and Politics. But since no

“temporary” buildings were to be built all the teaching was carried out in the laboratories, lecture theatres and tutorial rooms of the future faculty of Science.

The University expanded from this starting point and each department has eventually arrived in its final planned destination. Physics and Chemistry are the most fortunate since they were able simply to expand in their initial location; the main library is now in its fourth position and several other departments moved at least twice before settling down permanently. While these physical developments were taking place the numbers of students and staff were growing year by year; more departments were developing within the original five faculties and two new faculties, Law and Education, were started.

Having completed ten years and, in that time, having virtually established the whole University as it was foreseen by the Interim Council, it is possible now to take stock and attempt to draw up a balance sheet. In one respect, at least, we are seldom criticized: our business arrangements seem to have the full confidence of the government auditor and we have carried out a \$45 million building programme without overspending in any triennium. These successes have not been achieved without some cost, however; the meticulous accounting and stock-keeping arrangements that have been established make pretty heavy demands on administrative staff and it is possible that they contribute appreciably to the organizational burdens of departmental chairmen.

As to our buildings, the strict financial control on our architects has without doubt hampered their imagination and we now possess a group of buildings which excite little admiration. This is not true of the landscaping which, based as it is on planting Australian native trees and shrubs, gives great pleasure. Sir Osborn McCutcheon's master plan has stood the test of time and the courtyards which he provided between buildings have now developed into charming gardens.

Unhappily the pleasant surroundings in which we live are not matched by the care taken by our students to preserve them. After any fine lunch time when it is possible to eat outside the litter left behind is quite incredible. Within the Union, too, students get up and walk away from their lunchwraps and dirty crockery with no thought for those who must clean up after them. No amount of publicity and propaganda seems to have the slightest effect. The interest of our students in the environment and its survival is much to be commended but it would be more convincing if the Monash environment were not so much at risk.

This has been the first year of the 1970-72 triennium and much thought has been given to launching the building programme of \$10,861,000. Our procedure is for each project to be put in the charge of a committee of users whose first task is to write a brief for the architect specifying the facilities to be provided, the area that can be

built for the funds available and so on. Where the grant provided is sufficient to enable the project to be built as envisaged this is a straightforward procedure. But this triennium the grants recommended by the AUC and endorsed by governments are extremely difficult to translate into viable projects, especially in the science area.

In consequence the year has been spent in trying to devise workable schemes which both provided the kind of accommodation that was needed and could be built with the available funds. The delays occasioned by this long-drawn-out planning procedure, which has at every stage to be approved by the AUC, mean that for the first time in the history of Monash hardly any building work was actually under way on the campus. Only our two new halls of residence, Roberts and Richardson, were actually under construction while the finishing touches were being put to our Great Hall, named after Sir Robert Blackwood, our first Chancellor.

This magnificent hall, which is enriched by a wonderful rose window by Leonard French, will be a tremendous asset to the University and will allow us to develop Monash as a cultural centre for this part of Melbourne in the way which has long been intended. Already the Alexander Theatre is being used by the general public as well as by members of the University; the hope is that throughout the year there will be plays, concerts, exhibitions and so on which will bring people here.

The deans, in their reports, refer to the coming and going of staff in the faculties, and I only want now to refer briefly to the departure of the dean of Education, Professor Selby Smith. As the foundation professor and first dean he is responsible for the shape which the faculty has taken and especially for attracting such a vigorous and interesting staff. It is a matter of great regret that he should have been attracted away from us to the principalship of the College of Advanced Education in Tasmania where he hopes to accomplish things in the organization of teacher training which were not possible in Victoria.

At intervals throughout the year Monash has been tormented by the activities of its radical students who, doubtless driven on by the highest motives, do not hesitate to use their University for the propagation of their political beliefs. It may be recalled that in my report last year I mentioned the Commission on University Affairs which, after studying the way in which the University was actually functioning, recommended many changes in the governance of this place and especially advocated an increase in the representation of students and non-professorial staff on faculties and elsewhere. Most of these recommendations have been adopted, in part at least, and some are now in operation.

But all this is quite irrelevant to the activities of the radical element, whose aim is apparently to keep the University in a perpetual state of uproar for their own political purposes. The long-term aim is now

pretty apparent: the dispute over the discipline statute, and the earlier argument about the admission and re-admission of students with some sort of a "record" have the object of making this University—and others of course—safe bases for political activity.

While it is of course highly desirable that students should take an active interest in politics and public affairs the conversion of the universities into revolutionary centres is not only inimical to their proper scholarly purposes but is all too likely to produce a reaction in government and general public alike which is unlikely to be to our advantage.

Finally I must refer to our finances. This University has been fortunate to come to maturity in a period when the funds available, while not lavish, have been far more reasonable than ever before. This year, for the first time, a serious shortage of funds has become apparent which is having a most unfortunate effect on our ability to recruit academic staff at a rate commensurate with our student growth; indeed no new positions could be established for 1971 although the student population is still rising steadily.

The main reason for the pressure on the budget was the rising wages in the non-academic staff sector which have to be absorbed.

Towards the end of the year it was learnt that the Federal government was ready to recommend a special grant to meet these unexpectedly high wages provided the State government found its share of the total. The Victorian government was not able to do this but it did agree that the universities in this State could retain the product of any fee rises that are imposed.

In the event Monash fees were increased by 29 per cent but, for reasons that are still unclear, the corresponding Federal grant was not received.

The academic salaries were increased by 6 per cent and again the State did not provide the necessary funds but said that the previous fee rises could be used for this purpose if we wished.

The effect of all this is that the benefits of triennial budgeting, which were so welcomed when they were first introduced, are being rapidly eroded. It is commonly accepted, of course, that Commonwealth-State financial relations will have to be modified but, in the meantime, the universities are the victims of a highly unsatisfactory state of affairs.

Faculty of Arts—Dean: Professor G. R. Manton, M.A. (Cantab.)

Students

The total of undergraduate enrolments in 1970 was 2,962, an increase of about 2.5 per cent over the total in 1969, when there was an increase of 5 per cent over 1968. With a constant first year quota of 1,100, it seems unlikely that the undergraduate total will grow much larger, except in so far as it is increased by the higher proportion of

students taking honours degrees and continuing their studies to a fourth year.

The number qualifying to graduate at pass level at the end of 1970 rose from 454 in 1969 to about 500, and at honours level from 76 to 90.

There was an increase in graduate enrolments from 228 to 268. During the year, 16 qualified for the degree of M.A. and 10 for Ph.D.

Staff

The staff establishment rose from 203 to 215. A second chair was created in the department of Geography and filled by the appointment of Dr M. I. Logan, B.A., Dip.Ed., Ph.D. (Syd.). The second chair of French, which had been vacant for some time, has been filled by the appointment of Professor Francois Van Laere, Lic.Phil.L., of the University of Brussels. The department of Ibero-Romance has reverted to its original name of Spanish, and the chair, which has been vacant since it was established at the beginning of 1969, was re-advertised towards the end of the year. Another chair which remained unfilled was the second chair of English, formerly held by the late Professor Alec King. In last year's report, when recording the retirement of Professor King, we made mention of his services to the University. It is with deep regret that we now record his death, which took place on 7 March 1970.

Apart from many distinguished short-term visitors, the faculty has had during the year two visiting professors, each for a period of three months—Professor R. L. Politzer of Stanford University, in the department of French, and Professor Ofelia Kovacci of the University of Buenos Aires, in the department of Spanish.

Mr P. J. Bicknell (Classical Studies) and Mr D. G. Muecke (English) have been promoted to readerships. Dr C. M. Tatz, senior lecturer in the department of Anthropology and Sociology and also director of the Centre for Aboriginal Affairs, has resigned to take up the chair of Politics at the University of New England.

In 1969 the Council, at the request of the faculty board, had created the office of sub-dean in the faculty. Dr D. B. Heron, senior lecturer in Philosophy, has held this position as a full-time appointment throughout 1970. His duties have been concerned mainly with advising students on their courses.

The Faculty Board

Student representatives were elected as full members of the faculty board for the first time this year, three by the undergraduates enrolled in the faculty and one by the graduate students. As a further step towards making the business of the faculty board more widely known among the students, a bulletin has been published following each monthly meeting.

New Developments

Early in the year the board considered its submission for the 1973-75 triennium. It was agreed to place a chair of Islamic Studies, previously approved by the Australian Universities Commission, high in the list of priorities for new chairs and to re-submit the proposal for a department of Visual Arts, together with new proposals for a department of Archaeology and a school of librarianship. A Centre of General and Comparative Literature was also proposed and it was decided to set this up forthwith under a part-time director. The purpose of the centre is to encourage graduate studies and to provide a limited number of undergraduate courses in this field. Mr D. G. Muecke, reader in English, has been appointed director for a period of two years. It is hoped that eventually the directorship will become a full-time position.

Some years ago, the AUC approved the institution of a postgraduate diploma of social work. However, after full inquiry it was clear that the need for trained social workers in Victoria would best be met by a four-year course, and a new honours degree course in social administration has been approved. This course allows for some flexibility in the early years but includes extensive field work as an addition to the theoretical work of the fourth year. It is hoped to be able to admit suitably qualified students to the third year of the course in 1972.

The growth of existing departments depends mainly on student demand, and the unexpectedly large increase of first year enrolments, especially in sociology but also in anthropology in 1970, indicates that the department of Anthropology and Sociology will soon be of the same size as the departments of English and History. Such disproportionate growth creates staffing difficulties at any time. They are especially severe at a time when the over-all growth of the faculty has slowed down and when lack of funds is causing a University-wide deterioration in staff-student ratios.

The B.A. Degree

A Regulations Review Committee was established at the beginning of the year and has devoted much time to the simplification of the regulations. One important change was the abolition of the requirement that students who had not passed a language or mathematics subject at matriculation should include one of these subjects in their degree course. A matriculation language or mathematics pass still stands as the normal prerequisite for entry to the faculty.

Conferences and Overseas Visits

In August the University was host to the 13th Congress of the Australasian Universities Language and Literature Association under the presidency of Professor Ivan Barko. The congress was opened by Lord Casey and attended by some 400 delegates from universities in Australia and New Zealand and by a number of distinguished visitors from

overseas, including Professors B. Guyon (Aix-en-Provence) and B. Fabian (Munster), and Dr R. Shackleton, the Bodley Librarian. The congress consists of sections covering the most important European and Asian languages and literatures, ancient and modern.

Among the most important conferences attended by members of the faculty were the 42nd Congress of the Australia and New Zealand Association for the Advancement of Science in Port Moresby, the Second David Nichol Smith Memorial Seminar in 18th Century Studies in Canberra, and the International Congress of Germanists at Princeton. Among members of the faculty who were specially invited to present papers at conferences overseas were Professor M. G. Swift at the Symposium on Malay Studies arranged by the American Anthropological Association in San Diego, California, and Professor Z. F. Oliverius at the International Slavistic Colloquium, Los Angeles. In August Professor J. D. Legge returned from Singapore where, following a period of study leave, he had been director of the Institute of Southeast Asian Studies for one year. In December Professor J. V. Neustupny took up the Leverhulme Trust Visiting Professorship at the University of Tokyo.

General Departmental News

The department of Japanese, which began teaching in 1967, came of age in 1970 with its first final honours class. The five students in this class spent the first six months of the year in Tokyo, where they took intensive classes in Japanese Language and later continued with other courses under Japanese tutors, returning in July to complete the year at Monash. The travel expenses were provided by donations from Australian firms. Following the success of this experiment, a Monash Centre has been established in Tokyo with financial assistance from Australian and Japanese firms. This will serve as the headquarters for final year honours students in future years and for graduate students.

In response to changes of emphasis as disciplines develop, as well as to the changing interests of staff and the demands of students, various new options have been offered by most departments. Noteworthy among these is the Indian History option offered for the first time in final year honours history.

Language Services, under the direction of Dr E. W. Bauer, have organized various kinds of classes in English as a foreign language. The Department of Immigration has sponsored courses for migrants, mainly members of highly skilled professions who would otherwise be limited in their choice of employment in Australia. Other classes have been given at various levels to staff and students of the University.

The Centre for Aboriginal Affairs, under Dr Tatz, has been concerned mainly with research into the current social, educational and economic problems of Aborigines. At the same time, with the support of the Australian Institute of Aboriginal Studies in Canberra, the

department of Linguistics has been active in the field in the study of Aboriginal languages, and the department of Music has been concerned, both in teaching and in research, with Aboriginal music.

Public Lectures

In third term the faculty board arranged a series of six public lunch-hour lectures on contemporary Australian art. These were well attended and aroused sufficient interest to suggest that the establishment of a department of Visual Arts is long overdue. It is proposed to arrange similar series on other aspects of visual arts in the future.

Accommodation

The proposal for an extension to the Menzies Building was approved by the AUC, but the grant given has proved sufficient for a first stage consisting only of a ground floor and two floors forming a continuation of the first and second floors of the main building. These are being planned to house the department of Geography. A proposal to complete the extension with the addition of six further floors has been submitted for the triennium 1973-75.

Periodicals

Certain periodicals are being published by departments within the faculty. The *Australian Journal of French Studies*, edited by Dr W. Kirsop, has produced in 1970 (its seventh year) two double numbers—one in honour of Emeritus Professor A. R. Chisholm, the other on André Gide. *Apeiron*, a journal for ancient philosophy and science, edited by Professor H. D. Rankin and others in the department of Classical Studies, is less ambitious in format, but has completed five years and is well established internationally. *Komos*, a quarterly journal of drama and the arts of the theatre, edited by Miss Margery Morgan, reader in English, has nearly completed its second volume. A new serial, *Linguistic Communications*, in which several language departments combine with the department of Linguistics to publish from time to time papers and reports on work in progress, has had two issues during the year. *Melbourne Slavonic Studies*, as from its fourth issue, which appeared in 1970, is now published jointly by the departments of Russian at Monash and Melbourne Universities.

*Faculty of Economics and Politics—Dean: Professor D. Cochrane,
B.Com. (Melb.), Ph.D. (Cantab.)*

The divergence between the demands made upon the faculty and the resources made available to meet these demands continued to widen in 1970. The strength of the demand is shown by the number of applications received for candidature for courses leading to the degrees offered by the faculty and the large enrolment in the faculty's subjects.

First preference applications for the course for the degree of Bache-

lor of Economics in 1970 totalled 780 and approximately 2,600 applicants included the course in their first three preferences. This demand for candidature compared with the large first year quota of 500, brought about a substantial rise in the matriculation score required for entrance. As a consequence many prospective economics candidates are enrolling in other faculties which have lower matriculation marks required for admission and transferring to the faculty at the end of their first year. The total enrolment of undergraduates in 1970 amounted to 1,569 compared with 1,520 in 1969.

A similar intensification of demand for enrolment for graduate degrees was also experienced. This arises from the increasing number of Bachelor of Economics graduates wishing to take M.Ec. and Ph.D. degrees and through graduates of other faculties wishing to enhance their employment opportunities by undertaking the graduate administration programme available in the faculty. Candidates for the degree of Master of Economics increased from 34 in 1969 to 78 in 1970. In addition, 13 students were enrolled in 1970 for the degree of Doctor of Philosophy in the department of Economics. The number of candidates for the Master of Administration degree since its inception has been—1968: 44; 1969: 89, and in 1970: 126. Applications so far received for candidature for the Master of Administration in 1971 show evidence of a further substantial jump.

During 1970, 32 students were enrolled for Masters' degrees in the department of Politics although only one student was a candidate for the degree of Master of Economics, the remainder being enrolled for Master of Arts. The department of Politics also supervised 4 candidates for the degree of Doctor of Philosophy in 1970.

Graduands

A total of 306 students (including 37 honours students) completed the requirements for the degree of Bachelor of Economics in 1969 and were awarded degrees early in 1970, while 344 students (including 39 honours students) are eligible to graduate following the 1970 annual examinations. Eight candidates graduated with the degree of Master of Economics during 1970 and 2 candidates were awarded the degree of Master of Arts in politics.

The first Ph.D. candidate supervised by the department of Economics, G. P. Sampson, was awarded the degree during 1970 for his thesis entitled "Productivity Change in Australian Manufacturing Industry".

Staff

As in previous years, difficulties were encountered during 1970 in the recruitment of staff. Although four senior lecturers and five lecturers were appointed during the year in the department of Economics, the over-all increase, after taking into account promotions and resignations, was only three lecturers. The number of staff remained constant

in the department of Politics, although one senior lecturer and one lecturer were appointed to fill vacancies. Teaching fellows and other staff of the faculty increased from 36 in 1969 to 46 in 1970.

Despite the deficiency in the number of staff, it was not possible to locate all staff members in the Menzies Building in 1970. Accommodation problems should be eased during 1971, but this respite will only be temporary as there are many vacant positions on the establishment yet to be filled.

Study Leave

A number of members of staff took study leave during the 1970 academic year.

DEPARTMENT OF ECONOMICS

Professor A. A. L. Powell and Dr R. A. Williams presented papers to the Second World Conference of the Econometric Society at Cambridge in September. Professor J. W. Bennett is at present with the British Petroleum Company in London. Professor M. D. Brunt, Dr G. P. Sampson, Mr J. S. Deeble, Mr L. McGregor, Mrs E. Preston and Mr D. V. A. Campbell undertook further study, research and teaching at a number of overseas universities during the year. Professor J. E. Isaac spent a short time looking at urban wages in Papua and New Guinea, while Professor D. Cochrane took study leave to chair a board of inquiry into minimum wages, conditions of work and methods of wage-fixing machinery in those territories.

DEPARTMENT OF POLITICS

Professor H. Feith made a research trip to Indonesia and also acted as chairman at a conference in Thailand on "Chinese Communities in South East Asia". Professor S. R. Davis was appointed visiting professor at Berkeley, California, during the spring term and also visited other universities. Other members of the department who took study leave and travelled overseas included Dr H. G. Gelber, Dr P. Y. Medding, Mr M. E. Teichmann, Dr A. B. Davidson, Dr J. B. Dalton and Mr J. A. C. Mackie. In addition, many staff members attended conferences and presented papers at symposia organized in Australia during the year.

Visitors

The faculty was fortunate to obtain three distinguished special lecturers during 1970. These were Dr P. J. Dhrymes, professor of Economics, University of Pennsylvania; Dr E. M. Gramlich, economist in the Federal Reserve System in Washington, USA, and Dr A. C. Kelley, associate professor, University of Wisconsin. In addition, other eminent scholars visited the faculty during the year. Included amongst those who delivered seminar papers were:

DEPARTMENT OF ECONOMICS

Mr D. B. Butt, Australian National University
Dr R. Byron, Australian National University
Dr R. G. Gregory, Australian National University
Professor H. Arndt, Australian National University
Professor W. Hogan, University of Sydney
Professor F. Machlup, Princeton University
Professor L. G. Reynolds, Yale University
Professors R. Komiya and K. Hamada, University of Tokyo
Dr R. Blandy, Flinders University
Mr J. Edwards, Department of the Treasury
Professor J. Pitchford, Australian National University
Mr W. Eltis, University of Oxford

DEPARTMENT OF POLITICS

Dr J. Lindbeck, Columbia University
Mr S. Benn, Australian National University
Professor E. Mihaly, University of California, Berkeley
Mr G. Jukes, Australian National University
Professor H. S. Albinski, University of Queensland
Professor R. Garaudy, University of Poitiers
Professor W. Clemens, Boston University

CENTRE OF SOUTHEAST ASIAN STUDIES

Professor J. H. Badgeley, John Hopkins University
Mr S. Sastrosatomo, former member of the Indonesian Parliament

At an all-day conference organized by the Centre during May 1970 papers were presented by Mr G. Pringgodigdo, Mr H. Moekmin, Mr K. D. Thomas, Mr C. A. Coppel and by staff and graduate students.

Monash Economics Lecture

Mr R. J. McCrossin, general manager of Australian Resources Development Bank Limited, delivered the 1970 Monash Economics Lecture in the Alexander Theatre on 14 September 1970. The title of Mr McCrossin's paper was "The Role of the Development Bank".

Faculty of Education—Dean: Professor R. Selby Smith, M.A. (Oxon.), M.A.T. (Harv.), F.A.C.E.

Students

For the first time, it was necessary to impose a quota upon the admission of graduates to our one year course for the Diploma in Education. It was fixed at 500 equivalent full-time students, of whom 400 might be full-time students. This had long been planned as the maximum intake for the faculty at this level, and the relevant submissions to the Australian Universities Commission had made this clear. The

figure has been arrived at because the best available evidence seemed to show that it would make possible the admission of all Monash graduates who wished to go into the Diploma course after completing their courses for their first degrees, as well as a small number of overseas students, and graduates of other Australian universities. This proved to be a correct forecast; but continued financial restrictions made it impossible for the University of Melbourne to provide for all its own graduates. A further complication arose in November when the Teacher's Tribunal decided, without any consultation with the University faculties involved, to offer a number of very valuable studentships to graduates who wished to take the Diploma course and who would undertake, if awarded a scholarship, to serve for a year in departmental schools. While this seemed, in itself, to be clearly a forward move, it was disappointing, in view of the care which had always been taken to make our plans known to the State government, that it did not prove possible for any advance consultation to take place. Careful co-operation between the three universities made it possible, eventually, to admit almost all qualified applicants. It seems certain, however, that this will not be the case in future years, and that the situation will soon be reached—almost certainly in 1971—where a significant number of graduates who wish to qualify themselves for teaching in schools will not be able to obtain places in an appropriate course in a university. The Vice-Chancellors and the Vice-President of the Victoria Institute of Colleges have made strenuous efforts to ensure that the Minister of Education is fully aware of this problem.

The numbers coming forward for our B.Ed. courses continued to rise steadily, and it is very pleasing to find that the new subjects which we are offering, some of which have not previously been offered in Australia, are attracting applicants of good quality. Candidates for higher degrees again increased rapidly, and, in all, 64 are enrolled for Master's degrees, and 17 for the Ph.D. The faculty awarded its first Master's degree early in the year to Mrs E. L. Johnson for a study, "The Effects of Practice in a Self-instructional Programme". From now on there should be a steady flow of successful candidates at both levels.

Staff

The two professors appointed in 1969 took up duty in time for the beginning of the academic year. Thus, for the first time in Australia, there has come into existence a faculty which has among its staff a group of professors, each of whom can be a specialist, and therefore a leader of research and teaching in an important area of educational study. While the faculty still needs additional chairs in certain fields, which are not yet so covered, very significant progress has been made, and the quality and variety of background of the candidates wishing to enrol for higher degrees is evidence that the faculty's policy is gradually becoming known throughout Australia and overseas; it has clearly begun to influence the policy of other Australian Universities in this

matter. Professor M. D. Neale, M.A., Dip.Ed. (N.Z.), Ph.D. (Birm.), is concerned with special education and the needs of exceptional children, while Professor P. W. Musgrave, M.A. (Cantab.), Ph.D. (Lond.), is working in the field of Sociology of Education. Two additional lectureships were filled by the appointment of Mr F. R. Perry, M.A. (Melb.), T.P.T.C., L.A.A.T.D., M.A.Ps.S., whose interests are in psychology and the teaching of the deaf, and of Mr B. J. Spicer, B.Com., Dip.Ed. (Melb.), who is concerned with the teaching of geography. Mrs G. Solomon, B.A., B.Ed. (Melb.), was appointed as a senior teaching fellow to help with the work in the History of Educational Thought, and Mrs J. Slater, B.A. (Melb.), as a teaching fellow in psychology. The remaining post was filled by the part-time appointments of Mrs J. O. Taylor, B.Com., Dip.Ed. (Melb.), who took charge of Methods and Practice of Teaching Commercial Subjects, and Mr B. M. Bullivant, B.A. (Lond.), B.A. (Melb.), who has assisted with the teaching of Education in Society. The State Education Department continued to be most generous in seconding experienced teachers to act as part-time tutors and supervisors, and it now seems clear that the faculty's recruitment policy has resulted in the development of extremely effective teams to cover the necessary teaching and supervision in the methods and practice of teaching the various school subjects. We are extremely grateful for the understanding and co-operative attitude of the State Department in this matter.

Other important appointments made during the year were that of Dr N. J. D. Ryan, M.A., B.Ed., Ph.D. (Melb.), as senior fellow in the Higher Education Research Unit, and of Miss M. P. Elms, A.A.I.M., as administrative assistant. Late in the year, too, Mr S. A. Ioannou, B.Ec., was appointed as administrative assistant in the Research Unit.

Dr Balson and Mrs Zainu'ddin were on sabbatical leave for the academic year, while Dr Hunt and Mr Wheeler took shorter periods, beginning in second term and returning during the summer vacation. Professor Fensham and Mr Theobald began theirs at the beginning of third term, and will be returning at the same time in 1971. There are many fields of educational study in which little or no work has yet been done in Australia, and these periods of study leave are of the utmost value in enabling staff members to visit overseas centres where pioneering work is being done. We know that the faculty will benefit greatly from their further study and experience and we are sincerely grateful to the University for making it possible for them to gain it.

Professor Taft was invited by the University of Hawaii to spend a period in the department of Psychology there as a senior specialist; he accepted and left us in October and will be working there until June of 1971. This, too, will surely benefit the faculty and its students in future years.

It was gratifying that a large number of distinguished overseas scholars and university administrators came to visit us during the year,

most were for very brief periods, but Dr E. J. King, reader in Comparative Education at King's College in the University of London, was able to spend most of second term here. Staff and students alike benefited greatly from his presence with us and from the seminars and lectures that he gave.

Buildings

Now that the faculty's new building has been in use for a full year, and has been inspected by a very large number of Australian and overseas visitors, it can be said with confidence that it is most practical and appropriate for our work. A number of its special features—especially the facilities for the use of television and other modern aids, the curriculum laboratory and the child study centre—have attracted much favourable comment. It is already virtually fully occupied and substantial additions will be required early in the 1973–75 triennium if the work of the faculty is to continue and to develop as it should.

Curriculum

The very large numbers of students taking the full-time Diploma course and criticisms of the fragmented nature of the work, led a group of the faculty's staff to work out an experimental programme for about a quarter of the full-time students. The existing pattern of work seemed to be well suited to the needs of the more mature part-time students, and none of them, therefore, were involved in the new programme. About ninety full-time students took part, including all those who wished to study Methods and Practice of Teaching Science and Mathematics and a group whose first degree work had been mainly in History and English. It was arranged that a group of academic staff, proportionate in numbers to the number of students concerned, should work with this group; thus, instead of the work in Psychology being divided among a number of psychologists (each being responsible for a topic in which he or she was especially interested and expert) it was taken almost entirely by one lecturer, and the same was true of the work in Sociology and the other subjects of the course. Thus, a smaller group of students met more frequently with a smaller number of staff, and it was hoped that, in this way, more effective personal relationships would result. Much greater flexibility, too, could be brought into the programme, and topics could be dealt with on a more continuous basis, at whatever time of the academic year seemed appropriate, so that each student might have, at any one time, a lesser range of topics claiming his attention. It seems clear that this programme proved attractive and welcome to the students; it is planned to repeat it on a slightly modified basis, in 1971, and to attempt a thorough evaluation of it so that a decision can be made, in mid-1971, whether to revise the whole of the programme for full-time students on this basis. The programme has already attracted considerable interest in other States and in one or two overseas centres.

Further new subjects, including what we believe to be the first in Australia in Advanced Methods of Teaching English, have been introduced at the B.Ed. level; and we have been encouraged by the immediate response from applicants wishing to enrol for them. Regulations to enable the Master's degree to be gained by course work have been introduced and the first candidates enrolled.

Research

There has been further expansion in the number and scope of research projects. The Australian Research Grants Committee has continued the grants to Professor Fensham, Professor Taft, Mr Mackay and Dr Hore which were mentioned in last year's report. The Wark Committee has made a further large grant to Professors Dunn and Fensham, and has made a new one to Professor Musgrave for a study of decision-making in relation to education and training in manufacturing and commercial undertakings. The Aboriginal Pre-School Project has made further substantial progress and the Department of Education and Science is continuing to support Dr Phyllis Scott's project in regard to pre-school programmes. A short course, given in Melbourne by Dr Scott, to communicate to pre-school teachers some of the results of her work, proved so popular that it is being repeated in the other State capitals. The Education Department of the Territory of Papua and New Guinea is also supporting three projects connected with the educational problems of that country. A number of projects, several of which are of great promise, have been submitted to the Commonwealth government's Committee on Research and Development in Education, and it is hoped that substantial support may be forthcoming shortly from that source.

The first group of Ph.D. candidates are likely to submit their theses during next year; they cover a wide range of important topics, and it is believed that their completion will form a significant milestone in the development and progress of the faculty.

The Higher Education Research Unit is now really finding its feet; its research is concerned mainly with problems of student work load, flow from the sciences, exclusion policy and seminar technique. In its teaching and advisory function it is concerned with evaluating the Engineering 101 course for the faculty of Engineering and the alternative Diploma in Education course for the faculty of Education. Assistance with teaching method has been given to a number of academic staff from a variety of departments. In 1971 this teaching advisory service will expand as at least two departments within the University have requested assistance for their staff.

Two members of its staff—Professor Dunn and Mr Clift—will, in 1971, be offering the first section of the new Diploma in Education (Tertiary) which it is hoped will prove an appropriate and valuable addition to the work of the Unit.

Faculty of Engineering—Dean: Professor K. H. Hunt, M.A. (Oxon.), M.Mech.E. (Melb.), C.Eng., F.I.Mech.E., F.I.E.Aust.

Faculty Government and Course Development

During 1970 there was considerable discussion about student participation in faculty affairs. Three students (one graduate, two undergraduate) were appointed to the faculty board; students have taken part in some departmental meetings and, in particular, in the discussions of the Curriculum Advisory Committee which continues to examine the structure and content of the first and second years of engineering courses. The students' core committee of five, initiated in 1969, continued its activity to examine curricular matters and to improve contact between lecturers and students, but had some difficulty in attracting sufficient numbers to participate in several seminars or discussion sessions that they organized.

On 1 January 1970 the department of Materials Engineering was formally established, and many first year students have shown an interest in enrolling for the materials engineering course in second and later years.

The number and variety of subjects available to students as third or fourth year special inter-faculty subjects, were considerably increased in 1970, and it is hoped to be able to offer a still wider range in future years. The efforts of the faculties concerned in achieving this end are gratefully acknowledged.

Undergraduates

The number of students enrolled in first year was 298, indicating a continued increase (265 in 1969). Total enrolment in all four years was 850 (743), the numbers completing final year being: chemical 25 (19), civil 51 (38), electrical 29 (29), mechanical 27 (18), numbers in brackets being those quoted in the 1969 report. Of the 132 graduating, 75 qualified for honours (16 first-class, 35 second-class, 24 third-class). Fifteen students entered third year, having previously qualified for diplomas in Victorian colleges of advanced education; with the growth of degree courses in the colleges, it appears that this mode of progression, college diploma to university degree, is beginning to taper off.

The Higher Education Research Unit continued its valuable studies at first year level, investigating qualities that can be related to study habits and motivation. Some students were probably helped in their studies by our following up the results of questionnaires. This assistance from the faculty of Education is considered to be of such importance that it must continue to develop.

Some of the Engineering 101 lectures this year were pre-recorded on video-tape. The large size of first year classes and the need for clear demonstrations of certain material indicate the need to develop and extend this technique of presentation.

Graduate Scholars and Research

The number of students enrolled for higher degrees rose from 102 in 1969 to 104. Eleven (4) Ph.Ds were awarded in 1970; in fact, as is to be expected, the number of higher degrees being awarded is now showing a very marked increase. At the same time, in addition to those on scholarships, there is a rapid growth in the number of enrolments of candidates released from their employment specifically to study for a higher degree. An outstanding example in this category was Dr P. J. Meddings, who, having been granted two years' leave of absence from Mauri Bros. & Thomson (Engineers) Ltd, was awarded his Ph.D. just over a year ago and has recently been promoted to general manager for all Australian activities of the company.

The Australian Research Grants Committee provided a total of \$37,913 in support of eight research projects and substantial assistance for some sixteen more was provided by other organizations, principally: the Australian Atomic Energy Commission, the Australian Institute of Nuclear Science and Engineering, the Australian Welding Research Association, the Water Research Foundation, the Department of Supply, the Electricity Research Board, Pye Pty Ltd, CSIRO, the Australian Research Board, the Harold Armstrong Memorial Fund, ICIANZ Ltd, Rocla Industries Ltd, BHP, Costain Pty Ltd, Applied Chemicals Pty Ltd, State Electricity Commission of Victoria, the William Buckland Foundation, and Radio Research Board.

Staff and others have attended and contributed to various conferences including the Annual Conferences of the Institution of Engineers, Australia (Melbourne), the Australian Institute of Metals (Melbourne) and of the Australian Institute of Mining and Metallurgy; the First CHEMECA Conference; the Australian Road Research Board's Fifth Conference (Canberra); the Symposium on Soil and Earth Structures in Arid Climates (Adelaide); the Second S.E. Asian Conference on Soil Engineering; the Joint Conference on Concrete (I.E.Aust. and CIA) (Brisbane); a CIA Post-Tensioning Conference; an Earthquake Engineering Symposium; an I.E.Aust. Symposium on Aeronautical Engineering Education; BHP Metallurgical Seminars; an I.E.Aust. Hydrology Symposium; a Conference on Aspects of Transportation Planning (Queensland); a Transport Network Analysis Seminar (Melbourne); a Symposium on Balanced Urban Development (Melbourne); the Tewksbury Symposium on Urban Development, the Aviation Systems Planning Conference (Adelaide); the International Conference on System Sciences (Hawaii); Microelectronic Conference (Sydney); the Electric Power Conference (Sydney); a Control Colloquium (NSW); a Data Transmission Conference (Brisbane); a Circuit Theory Colloquium (Sydney); the Second Australian Conference on Electron Microscopy (Canberra); the Fourth Australian Ceramics Conference (Melbourne) (for which Monash University acted as hosts); the International Conference on Yield, Deformation and Fractures of Poly-

mers (Cambridge, UK) a Symposium on the Foundations and Objectives of Biomechanics (San Diego); a Fluid Power Control Symposium (Melbourne); the I.E.Aust. Thermodynamics Conference (Adelaide), and a Control Systems Techniques Symposium (I.E.Aust., Melbourne). Dr B. W. Cherry (Materials Engineering) was Monash University senior exchange visitor to Leningrad University from January to March.

The extent of research achievements is reflected in the list of publications to be assembled in a research report. However, particular highlights are the contributions by Associate Professor R. McPherson and Mr J. C. Ritter (Materials Engineering) towards the amendment of the international code for stress-relief of large pressure vessels; a major review of weldable aluminium-zinc-magnesium alloys prepared by Dr K. G. Kent during his two-year research fellowship in the department of Materials Engineering; a new industrial process for treating spent pickle liquor developed by Dr D. T. Lacey and Dr F. Lawson (Chemical Engineering), and the development of the transient network analyser by Professor K. Morsztyn (Electrical Engineering).

The department of Mechanical Engineering was happy to welcome Mr John Snell, plastic surgeon, as a research associate. He is closely associated with Professor J. D. C. Crisp in studies to do with biomechanics. The department has also continued its researches into the waste problem in Westernport Bay.

Staff

After a period of three years with no increases in the establishment of academic staff it was pleasing, and indeed vital, to make several new appointments. The full-time academic staff establishment is now 69, as compared with 58 for 1969. The professorial strength has been increased from 7 to 9 by the addition of second chairs in Electrical and Civil Engineering. The latter still remains unfilled, but Professor K. Morsztyn was appointed to the second chair in Electrical Engineering, thereby recognizing his considerable contribution to the establishment and development of fine facilities and stimulating work in electrical power. Dr D. V. Boger, Dr F. Lawson, Mr K. J. Atkins, Associate Professor I. B. Donald, Dr W. A. Brown, Dr J. B. Hinwood, Mr R. Gani and Dr H. Nolle, all left for study leave overseas during 1970.

Dr J. B. Agnew (Chemical Engineering), Mr R. McPherson (Materials Engineering) and Mr R. H. Brown (Mechanical Engineering) were promoted to associate professor during the year.

Visitors

Prominent among the many visitors during 1970 were: Professor A. E. Humphrey, University of Pennsylvania
Dr A. L. Downing, director, Water Pollution Research Laboratories,
UK

Dr J. F. Davidson, president, I.Chem. E., and fellow of Trinity College, Cambridge

Dr D. H. Sharp, general secretary, I.Chem.E.

Professor J. A. Tallmadge, Drexel University, Philadelphia

Professor M. Kennedy, Canterbury University, New Zealand

Dr J. C. R. Turner, fellow of Pembroke College, Cambridge

Dr J. Beranek, Czechoslovak Academy of Sciences

Dr P. Eisenklam, Imperial College, London

Mr P. H. Hammond, Warren Springs Laboratory, UK

Professor A. K. Rao, department of Aeronautical Engineering, Indian Institute of Science, Bangalore, India, who stayed several months as a Leverhulme Fellow and contributed extensively to the department's graduate studies

Professor T. V. Galambos, Washington University, St. Louis, USA

Mr D. C. Coode, Member of Council, Institution of Civil Engineers, England, and senior partner in Coode & Partners, Consulting Engineers.

Professor B. McA. Sayers, Imperial College, London

Professor R. Stuart Mackay, Boston University, USA

Professor H. Barlow, California University, USA

Dr T. Hammond, head of Automatic Control Group at National Physical Laboratory, Britain

Dr H. Chestnut, director of IEEE, New York, USA

Dr G. Sinclair, IEEE director at large and president of the Sinclair Radio Laboratories, Canada

Professor S. Verkateswaran, Indian Institute of Technology, India

Professor J. B. Cruz, University of Illinois at Urbana-Champaign, USA

Professor J. P. Duncan, head of Mechanical Engineering, University of British Columbia, who stayed some weeks and participated substantially in the teaching programme as visiting professor

Professor H. H. Davis, head of Mechanical Engineering, University of Adelaide

Mr C. Meyer, United Control (Kistler Corporation), USA

Professor R. Meyer, head of Mechanical Engineering, University of Auckland, New Zealand

The importance of the exchange of ideas with these and other visitors cannot be over-emphasized, for they stimulate both teaching and research, and contribute to our contacts with outside organizations.

Gifts

The Esso Petroleum Company has generously contributed \$2,000 for the purpose of up-grading engineering education. This will be devoted to work in chemical engineering.

The department of Materials Engineering received \$9,500 from the William Buckland Foundation for the purchase of a plastics and rubber extruder.

Through the offices of Mr Jack Wilson, two prizes were offered for the first time in Electrical Engineering, the Jack Wilson Prize (\$100), for the third year student in Electrical Engineering who has shown the greatest proficiency and initiative in electrical power engineering, and the Wilson Electric Transformer Prize (\$100), for the final year student in Electrical Engineering, whose project is on a power topic, and who has shown the greatest proficiency throughout the course.

Buildings and Facilities

The capital grant from the Australian Universities Commission for the 1970-72 triennium has made possible the completion of stage 4 of the heavy laboratories (building 5), some of which was left semi-finished in 1969. Also, planning has been proceeding with building 6, effectively an extension to building 4. This building will include more staff and teaching accommodation, and laboratories for the departments of Chemical Engineering, Electrical Engineering and Materials Engineering. The most significant single facility provided will be a medium-high-voltage laboratory at the eastern end of this extension.

With the move of the University computer centre to new accommodation, there has been some welcome relief to the pressure for staff rooms and laboratory and other teaching space. At last it has now become possible to place the faculty's analogue computers and associated equipment in a more suitable environment. An order was placed for a Hybrid Computer facility for use in a wide range of control and simulation problems. The source of funds for this was the AUC grant for teaching and research equipment.

Links with Industry

There are many valuable outside associations that the faculty has that extend further than student vacation experience. Amongst these are the increasing amount of consulting work undertaken by staff in all departments, and the many outside committees on which staff members serve. Final year undergraduate projects also are more and more related to design and development problems brought to our notice by industry, and special short courses for professional engineers still continue. Of the latter those presented in 1970 were on Control Engineering, Noise and its Control, Structural Analysis, and a number of chemical engineering topics including Biochemical Engineering, Non-Newtonian Flow, Chemical Reaction Design and Stability of Reactive and Non-Reactive Systems.

The faculty is grateful for the active interest taken in its affairs, and in those of all departments, by the six members of the faculty board who are not either members of Council or full-time staff or students, namely:

Dr R. G. Ward (director of research, BHP Co. Ltd)

Dr J. C. Nixon (manager of research, Conzinc Riotinto of Australia Ltd)

- Mr R. M. Johnson (consulting engineer, Milton Johnson & Associates)
Dr A. J. Seyler (assistant director-general (advanced techniques),
PMG's department)
Dr W. R. S. Briggs (general manager, Dyes Pharmaceutical Group,
ICIANZ Ltd)
Mr E. G. A. Weiss (assistant director-general (mechanical), Common-
wealth Department of Works)

General

During the year the faculty lost a good friend in the sudden death of Mr J. C. Stewart who, with his brother Mr A. W. Stewart, had been vitally interested in the graduates of the faculty and their encouragement, through grants from the Sir Alexander Stewart Memorial Fund, to undertake some project of a broadening nature. The committee administering this fund has given deep thought during 1970 to the means whereby it may be used to stimulate the interests of young engineers in as constructive a manner as possible.

It is pleasing to note that the Monash Engineering Students' Society continues to flourish and to assist the faculty in many ways, not least in orientation week. Appreciation is expressed of the great effort made by staff and students, notwithstanding the demands on their time made by the curriculum and research, to foster an environment in which fruitful personal exchanges can take place and contacts forged when the pressures from growing numbers in the faculty tend towards impersonal anonymity.

*Faculty of Law—Dean: Professor Enid Campbell, LL.B. (Hons.),
B.Ec. (Tas.), Ph.D. (Duke)*

Students

Total enrolments in the faculty have continued to increase. In 1969 there were 870 undergraduate students, of whom 803 were full-time. In 1970 there were 910 undergraduate students, of whom 829 were full-time. A little over 80 per cent of the undergraduate students are male. The quota for first year students remained at 280.

The number of candidates for higher degrees (LL.M. and Ph.D.) increased. In 1970 there were 4 candidates for the Ph.D., 11 candidates for the LL.M. and 3 preliminary candidates for the LL.M. All of the Ph.D. candidates were members of the teaching staff of the faculty. Of the LL.M. and preliminary LL.M. candidates, 7 were members of the teaching staff, and of the others, only 2 were full-time students.

Staff

Several new teaching appointments were made during the year and in second term Professor P. G. Nash took up duties as the Henry Bournes Higgins Professor of Law.

Mrs Kheng Lian Koh, lecturer in law in the University of Singapore, spent first term in the faculty as a visiting fellow under the Leverhulme Trust Fund. In July Professor Geoffrey Sawyer, head of the department of Law in the Research School of Social Sciences at the Australian National University, conducted classes in Constitutional Law. During his stay he held the rank of visiting professor.

Mr L. McCredie was promoted to a senior lectureship in law, and Dr P. W. Hogg to a readership in law.

A number of staff took study leave during 1970: Dr P. W. Hogg from July, Professor P. L. Waller (formerly dean of the faculty), Professor D. E. Allan and Mr P. F. P. Higgins from December.

Vacancies have been created by the resignation of Professor D. C. Jackson, Mr D. W. Greig, Dr P. W. Hogg, Mr H. J. Glasbeek and Mr R. A. Hayes. Professor Jackson who occupied the Sir John Latham Chair of Law, resigned at the end of 1970 following his acceptance of a chair of Law at the University of Southampton. Mr D. W. Greig, senior lecturer in Law, was appointed to the foundation chair of Law in the University of Wales Institute of Science and Technology; Dr P. W. Hogg to a chair of Law in York University, Ontario. Mr Glasbeek, senior lecturer in Law, has accepted appointment as a senior lecturer in Law in the University of Melbourne; Mr R. A. Hayes, lecturer in Law, has accepted appointment as a senior lecturer in Law in the University of New South Wales.

Curriculum Development

The review of the curriculum which was commenced in 1969 continued throughout 1970. The faculty board has approved the outline of a new curriculum for the degrees of Bachelor of Jurisprudence and Bachelor of Laws, and it is expected that the new curriculum will come into force in 1972. The plan preserves the present five year, two degree structure of the B.Juris./LL.B., B.A./LL.B. and B.Ec./LL.B. and the principle that there should be a non-law as well as a law content for the B.Juris. The major changes envisaged are that the subjects for the first year of the B.Juris. course should be entirely non-law subjects; that candidates for the B.Juris. should complete six non-law subjects and six basic law subjects—Legal Process, Common Law 1 and 2 (replacing the Law of Torts and the Law of Contracts), Criminal Law and Property, Law of Property and Constitutional Law; and that after completing these law subjects, candidates for the LL.B. should be required to complete the Law of Trusts, Administrative Law and a number of additional subjects chosen from a range of elective courses. The elective courses envisaged will be of varying length and weight, but it is proposed that the total number of elective courses which a student must complete to qualify for the LL.B. should be of a weight roughly equivalent to that of the subjects which students are now required to complete in the fourth and fifth years of the LL.B. course.

The planning of the new curriculum has proceeded on the assump-

tion that the basic teaching period will be the semester, and that most courses for the LL.B. will be courses extending over one semester.

Two new courses were offered in 1970: Copyright and Industrial Property, and Comparative Law.

Staff committees were appointed to consider methods of evaluating students' work and the conditions for award of supplementary examinations. In assessing students' performance greater weight has been placed on results obtained for written work completed during the year, and in seminar courses it is now the practice to dispense with formal examinations.

The faculty board has approved in principle a proposal that the regulations governing the degree of Master of Laws be amended to permit a candidate to qualify for the degree upon completion of course work, and a minor thesis. It is hoped that the new programme will be introduced by 1973.

Faculty Government

A staff committee has been appointed to consider the whole question of faculty government. The members of the committee include the student observer on the faculty board and a representative of the teaching fellows. The committee is to consider, *inter alia*, the recommendations of the Commission on University Affairs so far as they relate to faculties.

The faculty board has constituted a Liaison Committee on which both staff and students are represented. The committee deals with student grievances and generally with issues of concern to students.

Students have been given an opportunity to make submissions in connection with review of the curriculum and copies of many of the papers prepared by staff and minutes of the Curriculum and Legislation Committee of the faculty board have been made available to them.

Members of a student working party on curriculum review consulted with the Curriculum and Legislation Committee and attended staff meetings at which the committee's recommendations were discussed.

*Faculty of Medicine—Dean: Professor R. R. Andrew, M.D., B.S.
(Melb.), F.R.C.P., F.R.A.C.P.*

Monash Medical Centre

Provision for a Medical Centre on campus was made by the Interim Council (1958) which strongly supported the proposal (1959). This was approved in principle by the State government by its acceptance of the Lindell Report (1960). From 1964 to 1967 a functional planning brief resulted from work by joint committees of the University and the Hospitals and Charities Commission. The University concurrently explored the impact of such an undertaking and finally Council, on the recommendation of the Professorial Board, agreed to the campus Medical Centre, with an upper limit of 800 beds.

On 16 February 1970 the Minister of Health announced that the government had given its approval for a \$20 million Medical Centre on the campus. Funds have not yet been provided to press on with the appointment of architects and updating the functional brief. Many plans in the faculty, particularly the necessary relationships with other faculties, and the revision of the medical curriculum, must remain in suspended animation until firm plans can be made.

Already the faculty is finding increasing difficulty with its clinical teaching owing to severe limitations of beds. There are available only 1,000 beds which provide 8 beds for students in each of the three clinical years, below the standard (Goodenough) formula of 10 for each student. To provide some relief, arrangements have been made for students to go to Geelong Hospital in small groups for clinical instruction in obstetrics, medicine and surgery. The faculty has confidence in this as a progressive move in education but the decompression of the clinical material problem will be slight.

Rebuilding of the Alfred Hospital has now started and is expected to be complete (first stage) by 1974. This will provide an extra badly-needed 200 beds. However the long-term needs cannot be fulfilled until the Medical Centre is operating, and the need will increase each year.

The pressures are increasing for an adequate number of posts of an appropriate kind for training of our own graduates. Medicine is unique in that all graduates embark on graduate training for two or three years, merging into postgraduate and specialist training. The rise in graduates in Victoria during the 1950s and 1960s from about 150, all from Melbourne, to 283 (1970) and rising to 360 (1974) also places enormous educational strains on university affiliated hospitals. The Medical Centre will contribute significantly to this growing need for intern and residency places.

Students

There are 893 undergraduates, 18 of whom are reading for B.Med. Sc. Women comprise 22 per cent and overseas students (126, or 14 per cent) are from Malaysia (73), Hong Kong (20), Singapore (17), other countries (16).

The average age at entry was eighteen, 5 were under seventeen. Student-staff relations are harmonious and indeed the contribution undergraduates are making to the various executive bodies has increased notably. There are now representatives on faculty board, faculty executive, Unsatisfactory Progress Committee, and the Selection Committee. Staff are satisfied that their contributions have been of great value and their sense of responsibility high.

Staff

The student-staff ratio has deteriorated slightly from 6.9 (1969) to 7.2 (1970). There are 97 tenure, 55 non-tenure. Of the 152, 70 are on the campus and 82 downtown. These provide a large component

to the teaching of biological sciences for science in addition to medical students. In the affiliated hospitals there are 202 clinical instructors. It should be remembered that outside grants provide additional staff and of course considerable pressures for space. There are 49 academic staff (and 29 graduate students) all on outside grants. In all, including technical and clerical) 123 extra staff are deployed, campus and downtown, on research projects supported by these grants which come in the main from ARGC, NH & MRC, and NHF. The total funds were \$581,521.

During the year Professor Mollie Holman was appointed to a personal chair in Physiology. She has been elected to a fellowship of the Australian Academy of Science.

Study leave was granted to 8 and 7 returned. Staff were away on an average of six months. Seven went on overseas conference leave. The Winter Bequest to the faculty to support overseas travel (\$2,050 p.a.) has proved of great value.

The dean attended a medical manpower conference (November) in Italy at the invitation of the Josiah Macy Jr. Foundation.

The first part-time professor appointed by the University under the new statute took office—Dr H. Garlick, an in-patient physician at Prince Henry's Hospital. It is believed by senior staff in the faculty that an increase of the number of part-time professors from among the most eminent clinicians at hospitals with which we are affiliated could add great strength to our teaching programmes.

In all 7 academics left the faculty and there were 9 new academic staff.

Research

Research continues at a high level of activity in all departments. Professor Ironside (Psychological Medicine) was able to occupy his new laboratories and quarters for which \$76,600 was provided at Prince Henry's on AUC recommendation.

One index of research activity is publications. There were 342 of these by faculty members in 1970.

Final M.B., B.S. Examination (sixth year)

In 1970 for the first time the final M.B., B.S. examination was conducted in two parts. It is the hope that the new scheme will give greater flexibility in making arrangements for students' clinical work and will lead to a reduction in the number of students who sit for supplementary examinations.

Curriculum

During the year the faculty board approved a change in the existing structure of the first year course, which will take effect from the beginning of 1972.

Under the existing regulations students must take four subjects in

first year, one of which may be a subject taken from another faculty. For 1972 this optional subject will be replaced by a compulsory subject, which has tentatively been named Population Studies. Topics will include the physical environment, the social environment, behavioural studies and biometry.

*Faculty of Science—Dean: Professor K. C. Westfold, B.Sc.,
M.A. (Melb.), D.Phil. (Oxon.)*

In this the first year of the 1970–72 triennium much effort has been spent in trying to plan a viable building programme within the framework of the capital grants made by the Australian Universities Commission. As a result of these discussions the separate projects involving extensions to the physics and chemistry buildings are under way and approval has been sought for modifications in the remainder of the programme. These involve the incorporation of new lecture theatres into the north building extension project and a reallocation of the grants to enable suitable extensions to be made to the south building, which was occupied by the departments of Botany and Psychology only in December 1970, the zoology building, and the first year biology laboratories. With the completion of these extensions it will be possible for the department of Psychology to vacate the space in the Menzies Building it still occupies with first year laboratories and workshops. The accommodation problem of the department of Genetics will be significantly relieved some time in 1971 when it moves into the space in Block E of the medical building vacated by the department of Botany.

Despite these increases in available space it seems likely that the popularity of the biological sciences will require the continued imposition of quotas in some later-year subjects throughout the triennium.

The extension to the north building approved by the AUC while providing additional space for the departments of Mathematics and Information Science and the computer centre, will also house the department of Earth Sciences, which has at last been approved by the AUC as a new development. Unfortunately, the recurrent funds made available to the University (and thence to the faculty of Science) for the current triennium are insufficient to support the establishment of a new laboratory department on top of the ongoing provision required for the existing science departments. It has therefore been agreed that whereas the first professor and some supporting staff can be appointed in 1971 and 1972 it would be unwise, even if it were possible, to begin undergraduate teaching until the next triennium, when more adequate recurrent funds might be available to the University.

The first professor will benefit from the opportunity to plan his new curriculum and his accommodation in the new building without having to bear the pressure of an immediately impending teaching programme.

Again there has been an increase of 50 in the entrance quota of first year students, bringing this figure to 500, which is to be increased to a maximum of 550 in 1971. In 1970 the undergraduate enrolments numbered 1,316 full-time and 96 part-time students, and 96 honours and 133 pass degrees of B.Sc. were conferred. Higher-degree enrolments numbered 358; 14 Master and 37 Ph.D. candidates qualified for their degrees.

Library—Librarian: Mr E. H. Clark, B.A. (Melb.), F.L.A.A.

By the end of 1970 the University library had grown to approximately 417,000 volumes; 8,090 periodicals were being currently received.

Stock was distributed as follows: the main library (260,500), the Hargrave Library for the physical sciences and engineering (55,800), the law library (39,600) and the biomedical library with 34,100 volumes on the Monash campus, 15,400 at the Alfred Hospital, 3,500 at Queen Victoria and further small collections at the joint library run in conjunction with Prince Henry's and at Fairfield and Royal Park Hospitals.

The library's budget for 1970 could not be increased sufficiently to cope with the rising costs of new books and periodical subscriptions, still less with the expensive reprints of necessary older material now becoming available. As a result, intake of new books was reduced well below the desirable level.

The staff establishment remained virtually at the same level as in the previous year in spite of the increased demands for service resulting from a larger student population and the occupation of a major new building. It is a tribute to the staff's devotion that service was maintained in all areas.

Space was adequate for student needs in all areas except the Hargrave Library, whose planned extension will provide no relief until the end of 1971.

Loans for the year were as follows:

Main library	150,134
Hargrave	64,221
Biomedical	
(a) Monash	46,336
(b) Alfred	28,419
(c) Queen Victoria	7,851
Law	7,193
	<hr/>
Total	304,154
	<hr/>

In preparation for the planned installation of a new circulation system, work began in third term on the production of a magnetic

tape "Inventory" file, an abbreviated listing to encompass all volumes in the system. The necessary editing of the Hargrave and biomedical areas was completed and input to the file virtually so by the end of the year, while work on the open access area of the main library was well under way.

In the event, development of the necessary equipment was delayed and installation postponed for a further year. This will allow time for more thorough testing and for the Inventory operation to be completed at a more reasonable pace.

The number of items borrowed through the inter-library loan service again rose slightly, to 9,927, and loans to other libraries also increased to 7,288. It is clear that the widening of research at Monash is having its usual effect, in requiring access to stocks still wider than the library can hold; it is also clear that the library is approaching the stage when its resources can be called on as a matter of course by those who have in the past so consistently covered our inadequacies.

Development proceeded during the year on a computer-based system for bibliographic recording and budgeting in the acquisitions area, and it is hoped that a pilot operation may be working early in the new year.

6. UNIVERSITY FACILITIES

Computer Centre

As in previous years there was a significant increase in the workload for the equipment in the computer centre. The CDC3200 computer was very close to fully loaded for the whole year, being operated for a total of 7,300 hours, while the B5500 workload grew from a low of 200 hours a month in January to a peak of 400 hours in November. The total of 4,200 hours of operation for the year for the B5500 was limited by finance rather than lack of work. Toward the end of the year the demand for more substantial computing power in terms of raw processor speed and memory size led to regular use of the CDC 6400 computer at Adelaide University for approximately two hours per week. Approximately 188,000 jobs were processed using equipment on the campus.

The total expenditure for the centre was \$553,300 of which \$269,000 came from University recurrent funds and \$284,000 from revenue-earning activities. Revenue-earning work accounted for 17 per cent of the total computer time used.

Perhaps the most significant event in 1970 was the move to the science north building. The increase in the space available for staff, students and computer users in general has made work significantly less of a strain for all. Properly designed fire protection equipment in the new building is another important gain for its reduction of the main risk of loss or damage to equipment and data files.

When the computer centre installed the B5500 computer early in 1969 it entered into a two-year rental contract which was covered financially by accumulated revenue from contract work and the additional revenue expected over the two-year period. The anticipated government finance was expected to be available in time to meet the extension of the B5500 contract or more hopefully the installation of a more powerful machine. During 1970 the finding of an arrangement for retaining the B5500 which did not rely on government finance became a critical problem for the centre. By the end of 1970 a solution was in sight and it seemed highly probable that the existing B5500 would be retained and a second B5500 installed in conjunction with the Alfred Hospital and the Victorian Hospitals and Charities Commission in about April 1971.

Audio-Visual Aids

The Audio-Visual Aids section is a service unit of the University which exists to provide information and advice, and to investigate problems in the specific realm of educational technology, as well as the wider area of sound and visual requirements within the University complex.

During 1970 sixty television programmes were video-tape recorded and replays of pre-recorded material to students occupied eighty-one days. Release prints of 2,473 feet of the sound motion picture film photographed in colour for the Groote Eylandt Aboriginal dance and music project were made, and a test film of an operation was prepared, in colour, for the department of Obstetrics and Gynaecology at Queen Victoria Hospital.

The technical production of four self-teaching programmes in the form of colour slides and accompanying audio cassette recordings was undertaken for the department of Chemistry.

Master audio tapes were assembled from field trip recordings of Aboriginal music and three long-playing disc recordings produced from them.

A technical service for the projection of slides and motion picture film, television replay as well as sound recording and replay facilities continues to be provided for lecturers and organizations who use the rotunda group of lecture theatres.

Sound motion picture films were booked for academic and student screenings by the projectionist who conducted over two hundred screenings during 1970.

Alexander Theatre

Under a part-time director and a full-time manager, responsible to a committee appointed by the Professorial Board, the Alexander Theatre, which opened in 1967, continued to be used for dramatic performances, ballet, concerts, films, public lectures, conferences, forums and other meetings throughout the year. The users include

University departments and various University groups, both of staff and of students, and also numerous outside organizations ranging from local schools and associations to professional theatre companies.

The University provides the salaries of manager, secretary, one technician and some casual staff, and a grant for maintenance and equipment. From its own income, derived from a percentage of takings where entrance charges are made by University groups and from hire charges to outside organizations, the theatre is able to acquire some additional equipment and pay the salary of the senior technician. Some additional funds have also been provided from time to time by the University, e.g. during 1970 for a new sound mixer.

University dramatic activity is never constant, and during the last two years a trend towards less formal productions has reduced the demands by internal groups. This has encouraged the Alexander Theatre Committee to form an Alexander Theatre Guild, with the object of arranging visits from professional companies, mounting its own productions and sponsoring productions by other groups. It is hoped that the Guild will help the Alexander Theatre to play a part in conjunction with the Robert Blackwood Hall in establishing Monash as a cultural centre for the performing arts.

Student Residence

Increases in the cost of living—reflected in fees, books, fares and board—combined with poor public transport facilities to the University have caused considerable hardship to students, particularly to married graduates. Accommodation available in private homes close to the University is altogether inadequate. Private students from Asia suffer most as they have to be supported by their families.

The demand for flats continues and is being met in part by private enterprise, though often at too great a cost for students.

In the North-East Halls it became apparent during 1970 that hall fees needed to increase, in response to rising costs, at a faster rate than most increases in financial support to students. The 1971 fee will be 11.8 per cent higher than in 1970, despite several economies. The experiment of making rooms available to tourists during the 1970–71 summer vacation shows promise of slightly easing the financial burden on students.

Roberts Hall will take its first students in the second term of 1971. Richardson Hall should open at the corresponding time in 1972. The University's submission for the 1973–75 triennium seeks further increases in student accommodation, including the construction of a sixth hall, within which students will live in small, semi-independent flat-like units, while facilities shared by the whole hall community will be minimal.

Mannix College was completed early in 1970 and is now able to accommodate 225 male students and 25 tutors. There are also four self-contained flats available for visiting University staff. Marist Col-

lege, constructed in 1969, was opened to male students at the beginning of 1970. It is planned gradually to increase the number of students in 1971 and later years.

Health Service

A computerized analysis of health service statistics shows that the number of visits to the service in 1970 was 16,759, an increase of 2,628 over 1969. Of these visits 14,680 (87 per cent) were made during the nine months from March to November and 1,989 (13 per cent) during the long vacation in January, February and December. The frustrations of coping with these numbers in our present accommodation were extremely difficult. The situation was partly met by appointing a part-time receptionist during each University term and subdividing our already small observation room. This at least permitted our hard-pressed secretary to retire from the firing line and get on with essential typing and other duties.

The worried, anxious and disturbed students continue to require a large amount of our available time. Concern over the adequacy of present facilities for coping with this problem led to the appointment of an *ad hoc* committee of the Professorial Board which met in December 1970. Its findings and recommendations were subsequently presented to the Board, and it is hoped that at least increased psychiatric assistance will be recommended for 1971.

A number of students and staff suffered from Hong Kong influenza during the winter months. This particular viral strain produced a severe illness with considerable post-influenzal debility.

Sabin oral poliomyelitis vaccine was offered to all interested students and staff once in each of first, second and third terms, in the University Union, whose staff kindly carried out the necessary administrative procedures. It is intended to make this an annual event.

The inoculation of medical students prior to their entry into hospital is now done in fourth year during their practical class in microbiology. The health service assists in the various inoculation procedures.

Careers and Appointments

The year 1970 has been characterized by further growth in the scale of activities, and by some disruption of these activities as a result of student protests. The number of people registered as seeking information on employment at the end of 1970 was 1,437, representing an increase of some 19 per cent over the corresponding figure in 1969. It is expected that the increase in numbers seeking this help will taper off.

The number of earlier-year students seeking information and counselling on the career implications of subject choice has grown considerably, especially amongst economics and science students. This work is regarded as important, and must be handled carefully so as to encourage students to select courses and subjects more on the basis of their

own interests and abilities than on the career prospects, real or imagined, of particular specializations, whilst understanding the effect of their choice on career development.

Similar considerations arise in work with prospective students. Early in 1970 Mr R. R. Belshaw, formerly chief student counsellor at RMIT and a teacher and student counsellor of wide experience, took up duty as adviser to prospective students. During the year he has made visits resulting in contact with students of more than a hundred secondary schools, spoken or been available for interview at many careers evenings and similar functions, and has conducted a considerable number of private interviews with students and, often, their parents in the office. There can be no doubt that this work is important in achieving the objectives of the careers and appointments office.

The employer interview programme was interrupted by a student occupation of the office from 30 June to 3 July. The attendant disruption caused the office to be shut for another week, and resulted in the cancellation of a number of visits by employers. It was quite obvious that many students, not only those taking part in the occupation, and even some staff members, were ignorant of the aims of the office, and in particular of the employer interview programme. Efforts have been made to overcome this problem by appropriate publicity.

Some graduates from most faculties this year have found difficulties in securing satisfactory jobs. This has been primarily a result of economic restrictions aimed at reducing the rate of inflation, although there is some evidence that the numbers of graduates being produced by the three universities are becoming such as to strain the absorptive capacity of the community. The prospects for most types of graduate in 1971 do not seem particularly bright unless there are major economic and political changes. On the other hand, there is little likelihood that there will be substantial numbers of graduates unable to find jobs.

In last year's report, attention was drawn to the need for vocationally-oriented graduate courses to supplement the general education provided by many university courses. Some move towards the satisfaction of this need has been made by the Caulfield Institute of Technology where, partly as a result of suggestions and help from the careers and appointments office, a pilot graduate diploma course in secretarial studies will be run in 1971. It is expected that girls, mainly from the faculty of Arts, will gain considerable vocational advantages from the successful completion of this course.

During 1970 the second survey of graduate starting-salaries was published. It has become apparent that this service is widely appreciated by students, graduates and employers. Also published during the year was a survey of first occupations of Monash graduates (1963-69). This appears to have been of interest to academic staff as well as to students and employers. It is proposed to issue annual supplements so that trends in the first occupations of our graduates can be followed.

Student Counselling

Just on 1,200 students visited the counselling service in 1970, an increase of 15.3 per cent over the previous year.

Over the years there has been a gradual but systematic change in the composition of our clientele. The shift has been from a predominantly pre-enrolment and first year client in the early years of our service to an increasing proportion of senior or later year students (including graduate students) in 1970. This phenomenon has had two consequences: the first being that the type of problem presented has been shifting from the vocational/study area to the personal/emotional, or identity crisis, area. Indeed in 1970 41 per cent of our clients were classified as experiencing identity crises and another 13 per cent as being psychologically disturbed. It should, of course, be obvious that the latter type problems impair the student's capacity to work and make wise vocational choices. The second repercussion is but a consequence of the first and that is that each client has required more counselling time devoted to his problem than was previously the case. Whereas in 1965 each client required 1.5 counselling hours (on average), the figure for 1970 is 2.5 counselling hours per client. This trend is likely to continue.

As in previous years group activities and experiments continued. Another transition conference for first year students was held at Mount Evelyn. The counselling staff also participated and helped organize a special conference for first year engineering students run by that faculty.

Bookshop

The Bookshop Board, which includes two student members, continued to preside over policy aspects of the bookshops' activities during 1970. Mr E. Plumb has continued his successful operation of the bookshop.

As forecast in the previous year, 1970 proved to be a profitable year and previous losses have been eliminated. Progressive repayments of the funds originally advanced by the University are being made, and the range of stocks is being widened. There is general agreement from staff and students that the bookshop is now fulfilling its important role in the academic life of the University. Indeed it may yet become the best bookshop in Melbourne.

Because MUMUS experienced difficulty in obtaining supplies at trade terms during the year, the Board agreed that the bookshop could assist by processing some of their orders and allowing an appropriate percentage discount to the cooperative.

Religious Centre

The establishment of chaplains for 1970 includes Reverend P. Knowles, O.P., Reverend J. W. Whitehead and Mr Henry Shaw.

During 1970 religious services, discussion groups, study groups,

committee meetings and inter-denominational activities have been continued and expanded. Those with continuing bookings each term include the Christian Science Organization, the Evangelical Union, the Student Christian Movement, the Newman Society, Lutheran Student Fellowship, Yoga Group, Islamic Students Society and Monash Jewish Students Society.

1970 saw the introduction of a lecture series arranged each Wednesday of first and second terms in which visiting speakers of note lectured in the large chapel, and conducted discussions in the narthex afterwards.

Sunday Nights at Monash, an up-to-date form of Church service, was arranged by the SCM and held each month from April to August.

Recitals of music took place at intervals during the year. These were organized by the A Capella group, the Monash University Choral Society and the Renaissance Consort of the Tasmanian Conservatorium, and culminated in the annual Christmas carol service.

There were several bookings by outside groups for services to be held during the year.

The heavy demand for wedding bookings continues.

7. STUDENT ENROLMENT

The net total undergraduate population increased from 7,897 in the previous year to 8,332, an increase of 435 or 5.5 per cent. Graduate enrolments increased from 755 to 987 and total enrolments of all students from 9,542 to 10,384. Full details of enrolment are given in the table opposite.

Of these 10,384 students, 529 (5 per cent of the total) were from overseas, as follows: Borneo 17; Burma 3; Canada 7; Ceylon 1; Egypt 2; Ethiopia 2; Fiji 5; France 1; Ghana 1; Great Britain 16; Hong Kong 48; India 19; Indonesia 16; Ireland 1; Israel 1; Japan 7; Jordan 1; Kenya 1; Malawi 2; Malaysia 273; Mauritius 1; Netherlands 1; New Zealand 9; Norfolk Island 1; Pakistan 2; Papua and New Guinea 6; Philippines 1; Rhodesia 1; Singapore 42; South Africa 1; South Vietnam 13; Sweden 1; Thailand 12; Tonga 1; United States of America 10; West Germany 2; Zambia 1.

8. STUDENT ACTIVITIES

Although large student meetings, participation in the two moratoria, sit-ins, demonstrations and occupations dominated the headlines in the student newspaper during 1970, the many facets of the Union continued to provide their ordinary services, and activities in which to participate, for the total Union membership.

GROSS ENROLMENTS 1970 (as at 30 April)*

Faculty and Year	Full-time			Part-time			Total		
	M	F	T	M	F	T	M	F	T
HIGHER DEGREE									
Ph.D.	263	41	304	66	16	82	329	57	386
Master	190	43	233	295	73	368	485	116	601
Total	453	84	537	361	89	450	814	173	987
MASTER PRELIMINARY	14	6	20	58	24	82	72	30	102
BACHELOR DEGREE									
Arts									
I	250	527	777	153	191	344	403	718	1121
II	194	374	568	130	126	256	324	500	824
III	256	430	686	104	106	210	360	536	896
IV	69	51	120	1	—	1	70	51	121
Total	769	1382	2151	388	423	811	1157	1805	2962
Eco. and									
Pol.									
I	328	97	425	77	12	89	405	109	514
II	322	82	404	78	8	86	400	90	490
III	318	55	373	124	10	134	442	65	507
IV	50	4	54	4	—	4	54	4	58
Total	1018	238	1256	283	30	313	1301	268	1569
Education	6	2	8	165	52	217	171	54	225
Engineering									
I	294	4	298	—	—	—	294	4	298
II	229	3	232	—	—	—	229	3	232
III	175	2	177	—	—	—	175	2	177
IV	143	—	143	—	—	—	143	—	143
Total	841	9	850	—	—	—	841	9	850
Law									
I	207	38	245	23	4	27	230	42	272
II	192	31	223	20	2	22	212	33	245
III	127	26	153	13	3	16	140	29	169
IV	93	8	101	6	—	6	99	8	107
V	99	8	107	9	1	10	108	9	117
Total	718	111	829	71	10	81	789	121	910
Medicine									
I	129	33	162	—	—	—	129	33	162
II	125	35	160	—	—	—	125	35	160
III	136	27	163	—	—	—	136	27	163
IV	115	22	137	—	—	—	115	22	137
V	124	17	141	—	—	—	124	17	141
VI	105	24	129	—	—	—	105	24	129
B.Med.Sc.	14	3	17	—	—	—	14	3	17
Total	748	161	909	—	—	—	748	161	909
Science									
I	314	154	468	12	5	17	326	159	485
II	255	129	384	29	11	40	284	140	424
III	258	87	345	34	5	39	292	92	384
IV	85	34	119	—	—	—	85	34	119
Total	912	404	1316	75	21	96	987	425	1412
TOTAL	5012	2307	7319	982	536	1518	5994	2843	8837
DIPLOMA—Education	184	200	384	137	83	220	321	283	604
NOT FOR DEGREE	7	3	10	93	31	124	100	34	134
GROSS TOTAL ENROLMENT	5670	2600	8270	1631	763	2394	7301	3363	10664
Less adjustment for students enrolled for more than one course	233	26	259	17	4	21	250	30	280
NET TOTAL ENROLMENT	5437	2574	8011	1614	759	2373	7051	3333	10384

* These figures include the 145 higher degree students who were physically on campus but had not lodged any enrolment form.

During 1970 the long-awaited extensions to the Union building came into use and proved invaluable in easing the great pressure on space which had characterized 1969. Usage of the Union's facilities was very high; there was a great breadth in the activities of the many groups who exist under the 'umbrella' of the Union.

The Red Cross blood bank again proved to have popular appeal as did the distribution of Sabin oral vaccine. A number of seminars and forums, e.g. Pollution Forum, attracted audiences both from within and without the University. Usage of the alpine lodge, and of a house in Blackburn Road, affectionately called "Doug's Folly", was good. The Road Safety Week attracted much interest.

In 1970 the Monash Association of Students arranged, through the Australian Union of Students (formerly NUAUS), the establishment at Monash of two new services: a travel office, catering for staff and student travel within Australia and overseas; and a Friendly Societies' pharmacy, giving discounts to students and staff. The institution of a medical benefits scheme offering lower premiums to Monash students has also been arranged.

Student general meetings were numerous and well-attended, topics covering both University and world affairs; and students continued to participate in University affairs by means of representatives on the various University committees.

The student newspaper, *Lot's Wife*, again won the Howie Award for the best Australian university newspaper for the year.

Sixteen non-sporting clubs ran tuition courses in a variety of subjects during the year. Subjects offered in club tuition were folk guitar, modern dance, drama, ballroom dancing, Scottish dancing, Malay language, first aid, bridge, photography, Italian, light opera, choral, yoga, film appreciation and Yiddish.

Classes were organized by the clubs in conjunction with the Union activities officer, and a negotiated percentage of tuition fees (usually 25 per cent) was provided by the Clubs and Societies Council.

Fine arts courses increased in popularity once again, and courses offered to both staff and students were pottery, weaving, life drawing and painting, jewellery and enamelling, sculpture, paper and fabric printing, and basic dress designing.

A permanent fine arts area was established in the Union at the beginning of the year which afforded more space and a better atmosphere, as well as making possible a wider range of activities.

Subjects available for individual music tuition were singing, piano, classical guitar, clarinet, flute, saxophone, violin, viola, trumpet, cello and recorder. Most popular courses were piano, singing and classical guitar. The popularity of classical guitar necessitated a second tutor.

Eight new music practice rooms in the new Union extensions were ready for use in June, and records have shown a constant increase in their use since then. These rooms provide a reliable venue for Union

music lessons and individual practice, as well as a centre for clubs for music practice and record and tape sessions.

Following the success of the typing course in the 1970 summer school, a crash course in typing was offered in second term of this year. It was a five-week course of classes every lunch time, with a break of one week in the middle. Forty-five students enrolled, and thirty-five of these were from the Arts faculty. Attendance was extremely good, considering the pressure of appearing every lunch time, and typing speeds at the end of the course were much better than had been expected.

Nearly 1,400 enrolments were taken for term-time tuition at Monash during the year (this included fine arts tuition, typing tuition, music tuition and club tuition).

In January 1970 the number of vacation courses was extended and these courses were renamed "Monash summer school". Twenty courses in fifteen subjects were offered. A total number of 536 people took part, of which 230 were Monash students. Therefore, over 50 per cent of enrolments came from members of the public.

New courses in 1970 were modern dance, life drawing and painting, creative arts, weaving, poetry writing, small investors and the stock exchange, typing, photography, and learning to study at university level. These were day and night non-residential courses, and their length varied from one to five weeks. Students' fees were no longer subsidized, as they were in 1969, but students were allowed one month's priority for enrolling. The only subsidy received from the University Union was \$700 for cost of equipment, which was then available for term use.

All courses were filled, with long waiting lists, so it was decided that the number of courses should again be extended in the following year.

Nineteen clubs attended interstate intervarsities, twenty held conferences in Victoria, and eight clubs went on field trips. Four clubs held freshers' camps at the beginning of the year, where the composition of each camp was 40 per cent old students and 60 per cent freshers. These proved a successful way of initiating new students to University life, and it is hoped that these camps will increase in popularity.

Following on the tradition of 1969, Monash had another very successful year as far as intervarsity sport was concerned. Monash competed in thirty-three contests and was placed on twenty-four occasions, achieving wins in the following sports—

athletics (men)	basketball (men)
badminton (women)	cross country
football (2nd division)	hockey (women)
softball	squash (men)
table tennis (men)	volleyball

On the home scene, however, successes were not as prominent, but

Monash fielded approximately seventy-five teams in eighteen different sports, showing a further increase in participation at all levels.

Although three additional squash courts were completed early in 1970, increasing the total to seven, there has been little sign of any alleviation in the pressure of bookings for this very popular sport. Other innovations evident are the erection of a second mobile fence at the northern end of the main playing field; the completion of a sand-based baseball diamond in the south-east corner of the playing fields area; and the completion of the sports centre courtyard. Extra lights were erected on the practice field area north of the rugby oval and further lighting and drainage will be done on this area during 1971.

In September the Sports Association became responsible for the administration of the billiards/table-tennis area located in the basement of the new Union extension. The area has four full-size billiard tables, four pool tables and six table-tennis tables and throughout term is a very popular haven for many students of both sexes.

9. FINANCE

1. Funds Available

1.1 Recurrent Funds

Funds for expenditure on recurrent purposes during the year ended 31 December 1970 were available from the following sources:

	Total	University	Teaching Hospitals	Halls of Residence
	\$000			
State government grant	8,403	8,320	83	—
Academic fees	2,555	2,555	—	—
Commonwealth govern- ment grant	5,953	5,878	45	30
	<u>16,911</u>	<u>16,753</u>	<u>128</u>	<u>30</u>

The legislative sanction for the Commonwealth contribution is contained in the *States Grants (Universities) Act (No. 2) 1970*.

1.2 Capital Funds

Government funds available for expenditure on capital projects during the 1970-1972 triennium are as follows:

Buildings, Equipment and Furniture:	\$000
On University site, other than halls of residence	9,861
Halls of residence	1,910
Affiliated colleges	83
Teaching hospitals	216
Capital equipment	160
	<u>12,230</u>

The legislative sanction for the Commonwealth portion of each of these amounts (i.e. one half) is contained in the *States Grants (Universities) Act 1969* as amended by the *States Grants (Universities) Act 1970*.

1.3 Research Funds

A special grant of \$930,000 has been allocated for the 1970–1972 triennium for research and research training, this sum to be provided by the State and Commonwealth governments in equal proportions.

1.4 Students' Fees

A summary of the table of fees payable by students enrolled for the year 1970 is set out hereunder:

(a) Academic Fees

Undergraduate courses:	full-time \$372 per annum
Graduate courses:	
Master—	full-time \$132 per annum part-time \$66 per annum for first two years and \$15 per annum thereafter
Doctor of Philosophy—	full-time \$90 per annum
Higher Doctorate—	\$165

(b) Union Fees

Students studying on campus:	full-time \$45 per annum part-time \$30 per annum
Students studying off campus:	\$15 per annum

2. Accounts

The audited accounts of the University for the year 1970 are appended to this report (pages 62–71).

3. General

The triennial system of financing universities, which was introduced more than a decade ago as a result of the Murray Committee's advice, has been of immense benefit to the Australian universities. It will be recalled that the arrangement is for the Australian Universities Commission to recommend triennial grants, both for capital and recurrent expenditure, for each university: the capital is subscribed on a 50–50 basis by the Commonwealth and State governments respectively while recurrent funds are in the ratio of \$1 Commonwealth to \$1.85 State; universities refund their tuition fees to their State government.

One further important point is that while recommended increases of

academic salaries have generally been accompanied by special grants any other cost increases within a triennium, including the cost of non-academic staff wage rises, have to be absorbed by universities. It is generally believed that the AUC has based its recommended grants on the assumption that wages could rise by some 4 per cent per annum.

The grant for 1970, which was the first year of the current triennium, permitted recruitment of enough academic staff to allow the 1969 staff-student ratio to be maintained in 1970. During the year rising equipment costs and non-academic salaries made it clear that no more academic staff could be funded to cope with the larger student numbers expected in 1971. Thus not only will the AUC's objective of a staff-student ratio of 1:11 by 1972 not be achieved, but there will be a serious deterioration as the triennium proceeds.

Another matter which gave great cause for concern was the provision of computer facilities. Some years ago the Commonwealth government set up a committee to advise on the future provision of computers, and funds for running them, for CSIRO and other government research establishments and the universities, but no results of this study have yet borne fruit.

In December 1970 the three Victorian universities were advised by the State Treasury that the AUC had recommended interim grants to help to meet unexpectedly high non-academic wage rises and computer costs: so far as this University was concerned the figure was \$1,175,000, made up of \$763,000 (State) and \$412,000 (Commonwealth). When asked to find its share the State government demurred but agreed that the revenue from any fee rises imposed could be retained by the Universities on this occasion. On this basis Monash increased fees by 29 per cent to cover the State responsibility on the expectation that the corresponding Commonwealth government grant of \$412,000 would be forthcoming. This grant, however, has not yet been received.

The difficult financial position was aggravated by the 6 per cent national wage award which, this time, applies also to academic staff. The effects of this award will be felt in 1971 and require an additional \$541,000. (In May 1971 \$190,000 was granted by the Commonwealth government but the State government, which would normally have supplied the remainder, made it known that it could not provide further funds. Thus the potential benefits expected to be derived by the fee increase have not been realized.)

It is cause for apprehension that AUC recommendations have been ignored by both State and Commonwealth governments and that universities have been forced to raise student fees which are already high by comparison with those at other tertiary education institutions. The triennial granting system, which produced such splendid results in the sixties, is now in disarray and it must be realized that the result is that the educational objectives which the 1970-72 triennial grants were meant to make possible cannot now be fully achieved.

10. GIFTS AND GRANTS

The following gifts and grants were received by the University:

On the recommendation of the Australian Research Grants Committee, the Commonwealth government approved grants for 1971 totalling \$389,841 as listed at the conclusion of this report, and an addition of \$5,297 to previously approved grants for 1970.

A complete educational colour television unit valued at \$250,000 from Smith, Kline and French Laboratories (Aust.) Ltd.

\$50,000 to the Student Loan Fund from an anonymous donor.

\$32,709.75 from the Anti-Cancer Council of Victoria to support the following research projects in 1970, and including \$1,264.75 for administration:

\$11,865 to Dr H. Burger (Medicine); Pituitary and placental hormones in malignant disease.

\$10,330 to Professor R. C. Nairn and colleagues (Pathology): Studies on organ-specific and cancer-specific antigens.

\$6,150 for the continuation in 1970 of the cigarette-testing programme in the department of Chemistry.

\$3,100 to Associate Professor W. G. R. M. de Boer and Dr M. N. Cauchi: Organ specificity and neoplastic transformation in tissues exposed to X-irradiation.

\$31,700 from the William Buckland Foundation, as follows:

\$9,900 for a plastic and rubber extruder for the department of Materials Engineering.

\$9,550 for an M.S.E. super speed ultra-centrifuge for the department of Physiology.

\$8,250 for a closed circuit video unit for the department of Zoology environmental behaviour laboratory.

\$4,000 to the Elwyn Morey Memorial Fund.

\$25,921.57 from the Australian Institute of Nuclear Science and Engineering, as follows:

\$12,287.57 for salary, payroll tax and workers' compensation in respect of Dr J. A. Barclay, AINSE Research Fellow (Physics), for the years commencing 6 October 1969 and 6 October 1970; also a supporting grant of \$1,055 for the year commencing 6 October 1970.

\$6,084 for salary, payroll tax and workers' compensation insurance in respect of Dr J. S. Plant, AINSE Research Fellow (Physics), for the period 7 October 1970 to 6 October 1971; also a supporting grant of \$2,210.

\$4,285 in direct grants for research, as follows:

\$2,000 to Professor B. W. Holloway (Genetics), for project 70/70, "Radiation sensitivity and radiation repair mechanisms in *Pseudomonas aeruginosa* and its bacteriophages".

\$600 to Dr P. P. Phahey and Mr R. C. Tobin (Physics), for project 70/69, "Radiation damage in minerals".

\$515 to Dr R. J. Fleming (Physics), for project 70/62, "Radiation effects in polymers studied at electronic level".

\$400 to Associate Professor J. H. Smith (Physics), for project 70/64, "Magnetic structures in transition metal alloy systems".

\$320 to Dr G. V. H. Wilson and Dr J. A. Barclay (Physics), for project 70/68, "Hyperfine interactions and nuclear orientation in alloys".

\$250 to Mr C. W. Ambrose (Mechanical Engineering), for project 70/61, "Asymmetric heating in non-circular ducts".

\$200 to Mr G. J. F. Troup (Physics), for project 70/63, "Magnetic structure of transition metal olivines".

\$16,209 from the Van Cleef Foundation, as follows:

\$14,209 for salaries and maintenance of the Van Cleef Foundation Research Fellowship for 1970.

\$2,000 to provide additional data processing facilities for the use of the Van Cleef Foundation Research Fellow.

\$16,000 from the Bernard Van Leer Foundation to finance the second year of the Aboriginal Pre-School Project in Victoria.

\$12,506 from the Nuffield Foundation, as follows:

\$3,921 to Professor B. O. West (Chemistry) as a research grant for one year for the project, "Perfluorosilyl and 'siliconyl' derivatives of the elements".

\$3,000 to Professor M. G. Swift (Anthropology and Sociology), for the project "The Protestant Clergyman: conflicts and dilemmas of the religious professional", to be carried out by Mr N. Blaikie.

\$2,000 to Professor R. Porter (Physiology), towards the cost of the proposed visit of Professor Charles Phillips.

\$2,000 to Professor J. M. Swan (Chemistry), towards the cost of the proposed visit of Professor C. W. Rees.

The two last-named grants are subject to an assurance that the balance of funds required can be obtained from other sources.

\$1,585 to Dr T. P. O'Brien (Botany), for the project, "The Study of Plant Structure: principles and methods".

\$10,500 from the Life Insurance Medical Research Fund of Australia and New Zealand, as follows:

\$6,500 to Dr B. C. Ritchie (1971 and 1972) (Medicine), as a grant in aid of research on structure and permeability of the alveolar capillary membrane.

\$4,000 to Professor B. G. Firkin (Medicine), as a grant in aid of further study of platelet function and coagulation in patients with thrombotic disorders, during 1971.

\$10,395.20 from the George Hicks Foundation, as follows:

\$8,700 to finance the three current Applied Chemicals Pty Ltd graduate scholarships for 1970.

\$1,195.20 to meet the cost of Dr B. M. Gatehouse's return fare to Italy to enable him to attend a NATO Advanced Studies Institute concerned with Direct and Patterson methods of solving crystal structures.

\$500 as a contribution to Professor B. W. Holloway's travel costs to attend a UNESCO-sponsored conference on the genetics of Industrial micro-organisms, in Prague in August 1970.

\$10,000 from the Reserve Bank of Australia for a research project on "Futures Trading being undertaken during 1970 and 1971" by Dr B. A. Goss (Economics).

\$8,000 from Mr O. A. Mendelsohn to establish a fund the income of which is to be used in perpetuity for the presentation of a public lecture, or short series of lectures, in the University with the object of promoting the study of humanism, materialism, positivism, and other effects of the application of the scientific attitude to human affairs and thought generally.

\$7,362 from the Felton Bequests Committee to the department of Surgery, Prince Henry's Hospital, to enable Dr Paula Jablonski to be employed as a research officer from 1 January 1971 to 31 December 1971.

\$7,063 from the Water Research Foundation of Australia, as follows: \$3,850, being grants of \$2,850 for 1969-70 and \$1,000 for 1970-71 for the project, "Stochastic Generation of Hydrological Data", undertaken by Mr C. Philips, a graduate student, under the supervision of Dr T. A. McMahon (Civil Engineering).

\$1,163 being one half of a grant of \$2,326 for 1970-71 for the research proposal, "Primary production in Australian salt lakes", by Dr D. F. Gaff (Botany).

\$1,050 being half a grant of \$2,100 for 1970-71 for the project, "Factors affecting domestic and industrial water consumption", undertaken by Mr C. R. Weeks under the supervision of Dr T. A. McMahon and others.

\$1,000 for 1970-71 to support research by Dr D. F. Gaff (Botany) on "Collection of drought-resistant plants from South Africa".

\$5,800 from Imperial Chemical Industries of Australia & New Zealand Ltd, as follows:

\$3,000 to finance the ICIANZ research scholarship for 1970, awarded to Mr P. J. A. Ritchie.

\$2,800 to continue for a further year the graduate research scholarship held by Mr Paul Newman (Chemistry).

\$5,000 from the Victoria Law Foundation towards the Wilfred Fulagar Memorial Lectureship Fund.

\$5,000 from the Radio Research Board to Dr B. W. Cherry (Materials Engineering) for research into the electrical resistance of polymeric insulants.

\$5,000 from the department of Supply towards the continuation of Dr K. G. Kent's research fellowship in the department of Materials Engineering.

\$4,969.82 from Bristol Myers Company, International Division, to the department of Microbiology for 1970, for studies relating to the rapid assay of hetacillin or ampicillin.

\$4,700 from the Office of Aboriginal Affairs, Prime Minister's Department, for research into Aboriginal history, to be conducted by Mrs B. Hardy under the supervision of Associate Professor Ian Turner in the department of History.

\$4,557 from the Myer Foundation, as follows:

\$3,000 as a contribution towards the cost of an Enrichment Course for secondary school biology teachers conducted by the department of Biochemistry.

\$1,057 in support of Mr J. R. Clough's research study on the learning difficulties of culturally-deprived children.

\$500 as a travel grant for Mrs A. M. Moyle (Music).

\$4,000 from Carlton & United Breweries Ltd, as a further grant in support of Professor A. W. Linnane's yeast genetics research project.

\$3,742 from the Australian Welding Research Association as follows:

\$2,300 to finance the continuation of Dr K. G. Kent's research fellowship in the department of Materials Engineering.

\$1,000 to Mr R. McPherson (Materials Engineering) to enable him to extend his study of heat affected zones in welded assemblies.

\$442 towards salary increase for Dr K. G. Kent (Materials Engineering) for the period 1 January 1970 to 17 December 1970.

\$3,425 from the Monash Parents' Association for the following purposes:

Books for the library	\$2,000
Sports Association (medicine centre)	500
Fine arts display cabinet for the Union	400
Furniture for the Alexander Theatre	200
Classical records for the John Medley Library	200
Projection screen for religious centre	125

\$3,250 from Merck, Sharp and Dohme (Aust.) Pty Ltd, as follows:

\$3,000 for studies on growth hormone in the department of Biochemistry.

\$250 towards travel costs of Dr J. St. John (Medicine), in attending the annual meeting of the Gastroenterological Association in Florida, and visiting research centres and centres of medical education in U.S.A., Britain and Germany in 1971.

\$3,000 from Applied Chemicals Pty Ltd, as an initial grant to the department of Chemistry to undertake an investigation of the basic chemical reactions that occur during the use of a new process lubricant discovered by Applied Chemicals.

\$2,470 from CSIRO to enable the department of Microbiology to continue a project on the biological and infective properties of bedsonia.

\$2,000 from Esso Standard Oil (Aust.) Ltd, as an unrestricted grant to the faculty of Engineering to be applied for the advancement of engineering and research studies.

\$2,000 from Hoechst (Aust.) Ltd, as follows:

\$1,400 to defray administrative and secretarial costs incurred by Associate Professor K. H. McLean (Medicine) in connection with a trial of streptokinase in myocardial infarction.

\$400 toward the travel costs of Dr M. K. Gould (Biochemistry) in attending the VIIth Congress of the International Diabetes Federation in Buenos Aires, August 1970.

\$200 to the department of Surgery.

\$1,750 from Roche Products Pty Ltd, as follows:

\$1,500 to the department of Surgery.

\$250 towards the travelling expenses of Professor B. G. Firkin (Medicine), in attending a Haematological Conference in Munich, June 1970.

\$1,500 from Sandoz Australia Ltd, to the department of Surgery towards research on sleep mechanisms.

\$1,500 from the Joe White Bequest to the library.

\$1,400 from the Australian Council for the Arts towards the cost of the Aboriginal dance and music project, Groote Eylandt, undertaken by Mrs A. Moyle and Miss E. Allen (Music).

\$1,400 in 1969 from Mr P. G. Hiscock, a former holder of a Monash University non-residential undergraduate scholarship.

\$1,400 from Conzinc Riotinto of Australia Ltd to finance for 1970 the C.R.A. undergraduate scholarships awarded to P. Cable and R. N. D. Jones of the department of Chemical Engineering.

\$1,250 from the Hospitals and Charities Commission as follows:

\$1,000 to enable Mr J. S. Deeble (Economics) to inspect and report on health service research centres in Britain and Europe during 1970.

\$250 in support of Associate Professor J. P. Masterton's attendance at the Third International Burns Conference in Prague.

\$1,163.40 for the Wilfred Fullagar Memorial Fund from seventy-seven individual donors.

\$1,000 to the department of Surgery from an anonymous donor.

\$1,000 from Mr and Mrs Leo Fink to support a research study by Professor R. Taft (Education) on socio-psychological aspects of Jews.

\$1,000 from E. R. Squibb & Sons Pty Ltd to the faculty of Medicine, to be used for research and education purposes at the direction of the dean, as advised by the faculty of Medicine.

\$1,000 from the Ian Potter Foundation towards fares to enable Dr Edmund J. King, reader in Comparative Education at King's College

in the University of London, to visit the faculties of Education at Melbourne and Monash Universities for approximately eight weeks, commencing in June 1970.

\$1,000 from Monsanto Chemicals (Aust.) Ltd, being \$500 to the department of Chemical Engineering and \$500 to the department of Materials Engineering.

\$800 from the Shell Company of Australia Ltd to finance the Shell University Honours Year Scholarships for 1970.

\$800 from the Creswick Foundation, as a second and final instalment of a grant in support of Dr Phyllis Scott's project, "Research-Teaching Programme in Developmental Psychology and Pre-School Education at Melbourne Lady Gowrie Child Centre".

\$700 from Fawns & McAllan Pty Ltd as follows:

\$500 to the department of Surgery.

\$200 towards the travel costs of Dr M. K. Gould (Biochemistry), in attending the VIIth Congress of the International Diabetes Federation in Buenos Aires in August 1970.

\$624 from Sigma (Pharmaceuticals) Pty Ltd to the department of Physiology to assist a vacation research project under the supervision of Associate Professor G. Bentley.

\$622.16 from the Society of the Sigma XI for the Encouragement of Scientific Research to Dr James C. Saunders (Psychology) in support of his further study of "Single Unit Activity in the Auditory System of Unanaesthetized Animals".

\$600 from the Italian-Australian Centre to finance the Casa d'Italia Scholarships for 1969.

\$500 from the Arthur Wilson Memorial Foundation to the Monash department of Obstetrics and Gynaecology, Queen Victoria Memorial Hospital, for cardiovascular research.

\$500 from Philips Electrical Pty Ltd towards the expenses of Dr B. Gatehouse (Chemistry) in attending the NATO Advanced Studies Institute on Patterson and Direct search methods of crystal structure solutions, held in Parma, Italy, in September 1970.

\$500 from Glaxo-Allenbury's (Aust.) Pty Ltd towards the salary of Dr R. Taylor, a graduate scholar in the department of Obstetrics and Gynaecology, working on the development of an artificial fallopian tube.

An offer of \$500 from Beckingsale Management Services Pty Ltd to establish an annual prize for the top student in the Master of Administration course.

\$490 from "The Three R's" (Research and Rehabilitation of Retarded Children) in support of the project, "The role of materials in the acquisition of reading behaviour in intellectually retarded children", undertaken by Mr M. S. Jackson (Education).

\$454.46 as a further disbursement from the estate of Eileen Olive Renwick for research on the treatment of diabetes.

\$400 from Beecham (Aust.) Pty Ltd towards the cost of Professor S. Faine's attendance at the Tenth International Congress for Microbiology, Mexico City, August 1970.

\$400 from the Institute of Chartered Secretaries, being a donation to the Monash Annual Economics Lecture for 1970.

\$384.86 from Professor D. P. Derham and Professor P. L. Waller for the law school special purposes fund.

\$300 from the R. J. Alcock estate to the department of Medicine for the purpose of equipment.

\$250 from the northern branch of the Tasmanian Diabetic Association, towards the cost of Professor J. Bornstein's research into the drug A.C.G. and its application in diabetic control.

\$250 from Essex Laboratories Pty Ltd towards the cost of Professor S. Faine's attendance at the Tenth International Congress for Microbiology, Mexico City, August 1970.

\$250 from Mrs Louisa Jones, "Ripponlea", Hotham Street, Elsternwick, to the department of Obstetrics and Gynaecology, for research into the effect of hormones on the cardiovascular system.

\$200 from G. D. Searle (Aust.) Pty Ltd, as follows:

\$100 towards travel and subsistence expenses of Dr L. B. Geffen, (Physiology), who had been invited to present a review of Teaching Pharmacology throughout Australia at the annual meeting of the Australian Society for Clinical and Experimental Pharmacology in Sydney, in November 1970.

\$100 to the department of Medicine, Alfred Hospital.

\$200 from Organon (Aust.) Pty Ltd for maintenance and equipment for work on the artificial fallopian tube project by Dr R. Taylor (Obstetrics and Gynaecology).

\$200 from Upjohn Pty Ltd towards the travel costs of Dr D. J. St. John (Medicine) in attending the annual meeting of the Gastroenterological Association in Florida, and visiting research centres and centres of medical education in USA, Britain and Germany, in 1971.

\$200 from the *Herald* from proceeds of Wealth Words Competition to the University's student organization, Social Involvement, for the benefit of youth organizations.

\$200 from the Australian Ceramic Society for the purchase of equipment for the department of Materials Engineering.

\$200 from the Wilson Electric Transformer Company, as follows:

\$100 to establish an annual prize (initially for a period of five years) from 1970 for award to the third year student in electrical engineering, if of sufficient merit, who shows the greatest proficiency and initiative in electrical power engineering.

\$100 to establish an annual prize (initially for a period of five years) from 1970 for award to the final year student in electrical engineering, if of sufficient merit, whose final year project is on a power topic and who, in the opinion of the committee of award,

has shown the greatest proficiency throughout the course, and has displayed engineering ability and creative ability.

\$200 from Mobil Oil Australia Ltd, in support of the work of the careers and appointments office.

\$200 from the Danks Trust to the Elwyn Morey Memorial Fund.

\$200 from CSR Chemicals Ltd to finance the CSR Chemicals Ltd Prize in Chemistry for 1969 and 1970.

\$200 from Abbott Australasia Pty Ltd towards the cost of Professor S. Faine's attendance at the Tenth International Congress for Microbiology, Mexico City, August 1970.

\$200 from Mt. Isa Mines Ltd towards the work of the careers and appointments office.

\$200 from W. C. F. Thomas Trust for the law library.

\$178.50 from Cyanamid D. H. A. Pty Ltd towards the cost of Professor S. Faine's attendance at the Tenth International Congress on Microbiology, Mexico City, August 1970.

\$150 from the Victorian Bnai Brith Council to the Centre for Research into Aboriginal Affairs.

\$100 from Mr M. J. Edgloe, formerly senior teaching fellow in Mathematics in the University and now of Macquarie University, for the purchase of books and periodicals for the department of Mathematics library.

\$100 from Mr Alfred Ruskin, Freelance Press, towards the travel costs of Dr M. K. Gould (Biochemistry) in attending the VIIth Congress of the International Diabetes Federation in Buenos Aires, August 1970.

\$100 from Altona Petrochemical Company Ltd towards the expenses of the careers and appointments office.

\$100 from General Motors-Holden's Pty Ltd to the library for the provision of books on Southeast Asia

\$100 from the Geography Teachers' Association of Victoria to the Alexander Theatre.

\$100 from the School Library Association of Victoria to the Audio-Visual Aids section.

\$62.10 from the Australian National University to assist Messrs P. Hiller and P. Gunn, M.A. preliminary candidates, to attend a Sociological Association of Australia and New Zealand conference.

\$60 from Ramsay (Surgical) Ltd to provide the firm's annual prizes in Obstetrics and Gynaecology for 1970.

\$60 from Professor W. Ironside, chairman, Monash department of Psychological Medicine, Prince Henry's Hospital, to the special purposes fund of the department.

\$55 from the Ewing Memorial Presbyterian Church Scottish Country Dancing Group towards the research work being done by Professor Marie Neale (Education) for children with learning disabilities.

\$51 from Mrs P. E. Muskens (University library) to the library.

\$50 from Mr G. W. Rogerson (Economics) to the department of Economics for library purposes.

\$50 from Mr S. A. F. Pond to the law library.

\$50 from the Lions Club of Waverley towards Dr M. K. Gould's travelling expenses to the International Diabetes Federation Congress in Buenos Aires.

\$50 from Barnet, Rockman & Co., being the second instalment of a gift of \$250 to the law library.

\$50 from Messrs Mackenzie & Ross, solicitors, to the law library.

\$50 from Medos Equipment Company towards the expenses of Dr M. K. Gould's attendance at the International Diabetes Federation Congress in Buenos Aires.

\$50 from Fibremakers Ltd to support the work of the careers and appointments office.

\$50 from R. W. Easterbrook Pty Ltd towards the cost of Professor S. Faine's attendance at the Tenth International Congress for Microbiology, Mexico City, August 1970.

\$50 from A. E. Stansen & Co. Pty Ltd towards the travel costs of Dr M. K. Gould (Biochemistry) to attend the VIIth Congress of the International Diabetes Federation in Buenos Aires, August 1970.

\$27 from Dr G. G. Farrant to the special purposes fund of the department of Psychological Medicine, Prince Henry's Hospital.

\$25 from Thomas Optical & Scientific Co. Pty Ltd towards the travel costs of Dr M. K. Gould (Biochemistry) to attend the VIIth Congress of the International Diabetes Federation in Buenos Aires, August 1970.

\$20 from Albright & Wilson (Aust.) Ltd to the Elwyn Morey Memorial Fund.

\$20 from Miss Rosalind M. Romney, a part-time graduate student, to the library.

\$15.50 from the Monash Chess Club to the library.

\$15 from Mr R. Belshaw to the careers and appointments office general donations fund.

\$5 from Mr M. E. Perkins to the department of Microbiology for research into hepatitis.

\$5 from Edwards, Dunlop & Co. Ltd to the department of Obstetrics and Gynaecology, towards a proposed film on ovariectomy to be made for teaching purposes.

\$4 from Miss K. M. O'Keefe, 7 Maylands Avenue, North Balwyn, to the Elwyn Morey Memorial Fund.

A "Trimatic" automatic transmission box from General Motors- Holden's Pty Ltd to the department of Mechanical Engineering.

"Marine Life", a work in gouache, crayon and ink on paper, the gift of the artist, Peggy Shaw.

A watercolour study of two galahs, the gift of the artist, Mr Christopher J. Healey, a third year Monash Arts student.

A series of ten etchings entitled, "The Target is Man", the gift of the artist, Mr Udo Sellbach.

A painting, a study in black and white, the gift of the artist, Mr John Waterhouse.

In addition to the above gifts and grants there have been many gifts of books, journals and other material, some very valuable, to the library and departmental libraries.

The appeal by the University for funds towards the building of Robert Blackwood Hall had reached a total of \$515,169 by 31 December 1970. The appeal by the Churches and the Jewish community for the building of the religious centre had similarly reached \$228,666. Full lists of gifts will be issued when the lists are closed.

The following research grants, recommended by the Australian Research Grants Committee, were approved by the Commonwealth government:

<i>Investigator</i>	<i>Title of Project</i>	<i>Amount</i> \$
Dr D. E. Edgar	Socialization for Conformity: the relation of social class, academic competence and adolescent sense of power	6,000
Professor M. G. Swift	Social change in Jelebu	8,508
Dr D. S. Bartholomewsz	Shakespeare and the Players: historical reconstruction and evaluation of Shakespeare's last plays on the stage from the seventeenth century to the present	1,247
Dr M. G. Clyne	A study of migrant German in Australia	2,230
Dr A. G. Serle	History of Victoria 1851-1900	1,700
Professor J. V. Neustupny	A comprehensive structural grammar of modern standard Japanese	3,600
Professor A. A. L. Powell and Professor F. H. G. Gruen	Econometric analysis of protection	30,764
Dr H. G. Gelber	Australia, the United States alliance and power relationships in the Pacific	4,437
Dr T. Hore and Professor R. Taft	Teacher-pupil interaction with Australian and non-British immigrant children	4,814
Mr L. D. Mackay	The development and testing of procedures for evaluation of physics curricula in secondary schools	736
Dr G. A. Holder	Mechanism of crystal growth poisoning by polymers	1,000
Dr J. B. Agnew	Dynamics of packed tubular reactors for exothermic reactions	3,980

<i>Investigator</i>	<i>Title of Project</i>	<i>Amount</i> \$
Dr D. V. Boger and Dr C. Tiu	Accelerating and decelerating flows of viscoelastic fluids	4,100
Professor I. J. Polmear and Dr B. A. Parker	Studies of age hardening phenomena in alloys with special reference to the role of trace element additions	11,717
Associate Professor R. McPherson	Ultra-fine dispersed phase ceramics produced by precipitation from metastable solutions prepared by plasma methods	4,039
Dr W. A. Brown	Identification, stored program control, and adaptation for multi-variable continuous systems	1,530
Professor D. G. Lampard	Information processing in the nervous system using stochastic techniques	6,574
Associate Professor K. Morsztyn	The theoretical and experimental investigation of the influence of linear and non-linear phenomena on transient voltages in high voltage transmission lines and transformers	1,000
Dr W. H. Melbourne	Model scaling of wind effect on structures	4,739
Dr L. Austin	The origin of axonal protein	4,864
Dr B. N. Preston	Physico-chemical and mechanical studies on model connective tissue systems	6,395
Dr J. M. Haslam and Professor A. W. Linnane	The effects of altered biochemical composition on the structure and function of mitochondrial membranes	3,665
Professor D. A. Lowther and Dr H. C. Robinson	Structural studies of connective tissues including factors involved in the maintenance of cartilage	6,654
Professor A. W. Linnane and Dr H. B. Lukins	Biogenesis of mitochondria	11,167
Professor A. W. Linnane	Effect of antibiotics on mammalian tissues and on human cells in tissue culture	5,230
Mr G. F. Cross	Mycoplasma-cell interaction	3,693
Dr R. C. Bayly	Regulation of the enzymes of the "meta-fission" pathway in <i>Pseudomonas</i> species	3,300
Professor R. C. Nairn	Immunological studies of biological specificity	4,900
Dr R. F. Mark	Anatomy and physiology of vision and memory in lower vertebrates	4,312
Dr R. A. Westerman	Communication between cells in the nervous system of teleost fish	3,600

<i>Investigator</i>	<i>Title of Project</i>	<i>Amount \$</i>
Dr I. R. McDonald	Adrenal function in Australian monotremes and marsupials	6,071
Dr L. M. Aitkin	Central nervous mechanisms in sound localization	9,728
Dr L. B. Geffen and Dr B. Jarrott	Molecular basis of synaptic plasticity	9,957
Professor M. J. Canny	Physiological and structural studies of Phloem	3,331
Dr T. P. O'Brien	Cell biology of grasses with special emphasis on cereals	9,361
Dr B. J. Macauley	The effect of soil type on the role of the mycoflora in the decomposition of eucalyptus litter	3,031
Dr D. M. Churchill	A study of organic sediments in the volcanic crater-lakes of the Western basalt plains	3,145
Dr F. W. Eastwood and Dr I. D. Rae	Synthesis of sporidesmin	5,299
Dr R. S. Dickson	Substituent effect in organometallic chemistry	2,000
Dr G. B. Deacon	Main group element organometallic synthesis	2,500
Dr G. B. Deacon	Structures of halide complexes of organometallic compounds	4,186
Dr R. F. C. Brown	Synthesis of mycelianamide and related compounds (cyclic hydroxamic acids)	2,700
Professor R. D. Brown	The study of short-lived molecular species by microwave spectroscopy	18,288
Dr D. St. C. Black	Metal template rearrangements	4,333
Dr I. R. Wilson	Quantitative studies of oxidation reactions	950
Professor B. O. West	Some chloro and fluoro substituted organometallic compounds	8,182
Professor J. M. Swan	Design and synthesis of organic compounds having potential therapeutic value	3,512
Dr J. E. Kent	A spectroscopic study of small conjugated hydrocarbons in the near and vacuum ultraviolet	2,584
Dr B. M. K. C. Gatehouse	Crystal chemistry of the solid state	4,176
Professor J. M. Swan and Dr J. B. Youatt	Organic chemical aspects of cell differentiation	4,050
Dr I. R. McKinnon	The determination of the thermodynamic properties of simple fluids	2,400

<i>Investigator</i>	<i>Title of Project</i>	<i>Amount</i> \$
Professor R. D. Brown	Molecular orbital studies of electronic structures of molecules	24,210
Professor B. W. Holloway and Dr V. Krishnapillai	Genetic control of enzyme regulation in <i>Pseudomonas aeruginosa</i>	12,473
Professor P. D. Finch	The mathematical and empirical foundations of non-classical logics with particular reference to quantum mechanics	7,000
Professor R. Street and Dr G. V. H. Wilson	Study of magnetic materials at low temperatures in high magnetic fields	35,605
Dr A. C. McLaren	Direct observation and identification of crystal defects and their role in the mechanisms of crystallization and deformation of minerals and rocks	3,654
Dr R. J. Fleming	The effects of ionizing radiation on some common organic polymer materials, studied at the electronic level	3,840
Mr G. J. F. Troup and Dr J. R. Pilbrow	Variable temperature electron spin resonance and nuclear magnetic resonance in solids and complexes	3,895
Dr R. Weber	Measurement of thermal properties of magnetically ordered materials in the temperature range 0.3 to 300°K, and in magnetic fields up to 60 kg.	8,964
Dr C. S. Chen	A comparative study of the learning ability and memory of different strains of rats in a temporal maze	2,300
Dr J. L. Bradshaw	Human information processing: determinants and correlates of performance	5,187
Dr K. I. Forster	The perception of sentence structure under conditions of rapid visual presentation	2,238
Dr J. C. Saunders and Dr W. R. Webster	Single-unit activity in sensory systems of unanaesthetized animals	7,173
Professor R. H. Day	Visual acuity and visual processes with stimulus orientation	2,158
Dr I. A. E. Bayly	Studies on osmotic and ionic regulation in animals in highly saline inland waters	865

For and on behalf of the Council,

D. I. MENZIES

Chancellor

ACCOUNTS FOR THE YEAR 1970

The audited accounts of the University for the year 1970 follow this introduction, in which the salient features are set out for ready reference.

1. *Capital Funds*

Since the incorporation of Monash University on 30 May 1958, the following funds have been provided for the acquisition of physical facilities of a permanent nature—

	\$000	%
State Government Grants	23,220	50.6
Commonwealth Government Grants	22,722	49.4
	<u>45,942</u>	<u>100.0</u>

These funds have been expended as follows:

	\$000	%
Land	480	1.1
Site Development	3,385	7.5
Buildings	37,699	83.4
Equipment	1,668	3.7
Furniture	1,936	4.3
	<u>45,168</u>	<u>100.0</u>

2. *Recurrent Funds*

A brief summary of the income and expenditure for recurrent purposes of the University for the year ended 31 December 1970 is given hereunder—

Income:

	\$000	%
State Government Grants	8,320	49.7
Commonwealth Government Grants	5,878	35.1
Academic Fees	2,555	15.2
	<u>16,753</u>	<u>100.0</u>

Expenditure:

	\$000	%
Teaching and Research	12,237	71.9
Libraries	1,293	7.6
Administration	1,848	10.8
Buildings and Grounds	1,305	7.7
Other	343	2.0
	<u>17,026</u>	<u>100.0</u>

The following accounts, which have been prepared in the form prescribed by the Auditor-General, provide further details of the year's activities.

MONASH UNIVERSITY
 (I) STATEMENT SHOWING INCOME AND EXPENDITURE FOR ALL GENERAL PURPOSES
 YEAR ENDED 31 DECEMBER 1970

	DIRECT GOVERNMENT GRANTS AND ACADEMIC FEES					INDIRECT GOVERNMENT GRANTS AND OTHER FUNDS			TOTAL
	Recurrent	Research Projects	Buildings, Equipment and Furniture	Recurrent (Teaching)	Buildings, Equipment and Furniture (Hospitals)	Grants and Donations	Union Development	Other Items	
	\$	\$	\$	\$	\$	\$	\$	\$	\$
INCOME—									
State Government Grants:									
Received this year	8,320,107	100,000	1,275,000	83,400	9,889				9,788,396
Add Accrual at 31 December 1970		55,000			8,613				63,613
Commonwealth Government Grants:									
Received this year	5,878,000	459,444	2,062,250	45,100	63,800				8,508,594
Deduct Accrual at 1 January 1970			787,250 Dr		45,298 Dr				832,548 Dr.
Academic Fees	2,555,153								2,555,153
Fees for Special Short Courses								20,773	20,773
Union:								269,711	269,711
Fees								22,591	22,591
Other Income							134,584		134,584
Union Development Fees									
Grants and Donations:									
Government-financed Bodies						434,945			434,945
Other						313,525			313,525
Appeals:									
Robert Blackwood Hall						16,492			16,492
Religious Centre						10,529			10,529
Other						20,200			20,200
Outside Earnings							36,497	319,298	355,795
Other Income						3,570 Dr.		185,530	181,960
TOTAL INCOME	16,753,260	614,444	2,550,000	128,500	37,004	792,121	171,081	817,903	21,864,313

	DIRECT GOVERNMENT GRANTS AND ACADEMIC FEES					INDIRECT GOVERNMENT GRANTS AND OTHER FUNDS			TOTAL
	Recurrent	Research Projects	Buildings, Equipment and Furniture	Recurrent (Teaching)	Buildings, Equipment and Furniture (Hospitals)	Grants and Donations	Union Development	Other Items	
EXPENDITURE—	\$	\$	\$	\$	\$	\$	\$	\$	\$
<i>Teaching and Research:</i>									
Salaries	9,084,649	109,631		45,000		231,673		6,932	9,477,885
Superannuation	686,864	1,872				6,190			694,926
Departmental Maintenance	831,479	68,769		78,000		132,683		3,703	1,114,634
Minor Equipment	353,302	260,214	116,870		25,740	100,642		140	856,908
Major Equipment		15,333	77,864			38,184			131,381
Research Scholarships and Fellowships	493,912	18,881				162,233			675,026
Study Leave Grants and Overseas Travel	133,080	3,379							136,459
New Appointments	87,186								87,186
Other	564,641	33,490				49,102		2,649	649,882
<i>Libraries:</i>									
Salaries	657,110								657,110
Superannuation	39,844								39,844
Books, Journals and Binding	541,629	33,443		5,500		9,553		462	590,587
Equipment and Furniture	4,820								4,820
Other	48,303								48,303
<i>Administration:</i>									
Salaries	1,211,346								1,211,346
Superannuation	85,780								85,780
Postage, Telephone and Advertising	213,047								213,047
Equipment	11,610								11,610
Victorian Universities Admissions Committee	683								683
Other	326,722								326,722
Forward:	15,376,007	545,012	194,734	128,500	25,740	730,260		13,886	17,014,139

	DIRECT GOVERNMENT GRANTS AND ACADEMIC FEES					INDIRECT GOVERNMENT GRANTS AND OTHER FUNDS			TOTAL
	Recurrent	Research Projects	Buildings, Equipment and Furniture	Recurrent (Teaching Hospitals)	Buildings, Equipment and Furniture	Grants and Donations	Union Development	Other Items	
	\$	\$	\$	\$	\$	\$	\$	\$	
Forward:	15,376,007	545,012	194,734	128,500	25,740	730,260		13,886	17,014,139
<i>Buildings and Grounds:</i>									
Construction of New Buildings			2,366,685		93,134		261,843		2,721,662
Site Development			290,172			867		77	291,116
Purchase of Land & Buildings								4,709	4,709
Repairs & General Maintenance	811,552								811,552
Furniture and Furnishings	24,310		151,568		7,428		25,432		208,738
Rents, Rates, Power, Lighting, Heating	376,301								376,301
Equipment	11,673								11,673
Other	81,372							4,663 Cr.	76,709
<i>Sundry Expenditure:</i>									
Union Activities	23,550						31,212	286,778	341,540
Student Services	149,657								149,657
Audio-Visual Aids	97,110								97,110
Scholarships and Prizes	30,650					4,386			35,036
Halls of Residence						46		26,236	26,282
Owned Houses & Transit Flats								2,517 Cr.	2,517 Cr.
University Bookshop								31,126 Cr.	31,126 Cr.
Alexander Theatre & Rotunda	29,448					166 Cr.			29,282
Expenditure re Outside Earnings								387,844	387,844
<i>Appeals:</i>									
Robert Blackwood Hall						361,640			361,640
Religious Centre						1,848			1,848
Other	13,880					301			301
Other						2,427		65,134	81,441
<i>Inter-Fund Transfers</i>							19,037	19,037 Cr.	—
TOTAL EXPENDITURE	17,025,510	545,012	3,003,159	128,500	126,302	1,101,609	337,524	727,321	22,994,937
STATE OF FUNDS—									
Balance, 1 January 1970	853,591 Cr.	46,091 Cr.	1,164,654 Cr.	—	150,415 Cr.	859,501 Cr.	251,990 Dr.	53,496 Cr.	2,875,758 Cr.
Result for Year:									
Deficit	272,250		453,159		89,298	309,488	166,443		1,130,624
Surplus		69,432						90,582	
Balance, 31 December 1970	581,341 Cr.	115,523 Cr.	711,495 Cr.	—	61,117 Cr.	550,013 Cr.	418,433 Dr.	144,078 Cr.	1,745,134 Cr.

(II) STATEMENT OF SOURCES AND APPLICATION OF FUNDS

	1958-68	1969	1970	Progressive Totals to 31/12/1970
SOURCES—				
(1) State Government Grants:	\$	\$	\$	\$
Recurrent—				
General	28,363,212	6,766,523	8,320,107	43,449,842
Teaching Hospitals	155,297	62,020	83,400	300,717
Site, Buildings, Equipment and Furniture—				
General	17,166,288	2,869,750	1,275,000	21,311,038
Teaching Hospitals	1,828,131	61,967	18,502	1,908,600
Research Projects	608,610	89,701	155,000	853,311
Total State Government	48,121,538	9,849,961	9,852,009	67,823,508
(2) Commonwealth Government Grants:				
Recurrent—				
General	19,210,753	4,981,747	5,878,000	30,070,500
Teaching Hospitals	83,887	33,657	45,100	162,644
Site, Buildings, Equipment and Furniture—				
General	16,668,850	2,869,750	1,275,000	20,813,600
Teaching Hospitals	1,828,131	61,967	18,502	1,908,600
Research Projects	928,106	286,614	459,444	1,674,164
Total Commonwealth Government	38,719,727	8,233,735	7,676,046	54,629,508
Total Government:	86,841,265	18,083,696	17,528,055	122,453,016
(3) Academic Fees and Fees for Special Short Courses	7,514,536	2,458,659	2,575,926	12,549,121
(4) Union:				
Fees	818,438	253,234	269,711	1,341,383
Other Income	40,758	19,356	22,591	82,705
(5) Grants and Donations, including Appeals	3,483,944	669,849	792,121	4,945,914
(6) Union Development	551,755	172,641	171,081	895,477
(7) Other Income	957,060	385,102	504,828	1,846,990
TOTAL FUNDS AVAILABLE	100,207,756	22,042,537	21,864,313	144,114,606

APPLICATION—	1958-68	1969	1970	Progressive Totals to 31/12/1970
	\$	\$	\$	\$
(1) Recurrent Purposes:				
General—				
Salaries and other operating expenses	46,358,887	13,322,172	16,041,273	75,722,332
Equipment and Furniture	4,897,856	685,184	441,047	6,024,087
Books, Journals and Binding	2,558,898	618,538	543,190	3,720,626
Teaching Hospitals—				
Salaries and other operating expenses	224,384	89,177	123,000	436,561
Books, Journals and Binding	14,800	6,500	5,500	26,800
(2) Site Acquisition and Development	3,435,128	140,335	290,172	3,865,635
(3) Building Funds:				
General—				
Buildings	28,191,358	3,710,177	2,366,685	34,268,220
Equipment	1,281,856	6,791	194,734	1,483,381
Furniture	1,482,697	161,642	151,568	1,795,907
Teaching Hospitals—				
Buildings	3,258,575	78,766	93,134	3,430,475
Equipment	114,127	45,539	25,740	185,406
Furniture	113,450	19,324	7,428	140,202
(4) Research Projects	1,462,483	404,457	545,012	2,411,952
(5) Grants and Donations, including Appeals:				
Salaries and other operating expenses	1,813,802	438,573	594,905	2,847,280
Equipment and Furniture	528,661	79,988	138,626	747,275
Books and Journals	27,751	13,070	9,817	50,638
Buildings and Site Development	244,351	148,096	358,261	750,708
(6) Union Development	617,382	359,004	337,524	1,313,910
(7) Other Expenditure	1,662,448	758,308	727,321	3,148,077
TOTAL FUNDS APPLIED	98,288,894	21,085,641	22,994,937	142,369,472

(III) STATEMENT OF BALANCES AT 31 DECEMBER 1970

	\$
Bank Overdraft	6,182
Students' Fees Received in Advance	148,924
Sundry Creditors and Accrued Expenses	1,367,492
Loans on Mortgage	184,545
Superannuation Funds	630,871
Accumulated Funds—	
Direct Government Grants and Academic Fees:	
Recurrent	581,341
Research	115,523
Buildings, Equipment and Furniture—	
General	711,495
Teaching Hospitals	61,117
Indirect Government Grants and Other Funds:	
Grants and Donations	550,013
Union Development	(Dr.) 418,433
Other Items	144,078
	<u>1,745,134</u>
	<u>4,083,148</u>

	\$
Cash on Hand and at Bank	10,658
Investments—	
Superannuation Funds:	
Fixed-Interest Securities at lower of par or cost	376,714
Ordinary Shares, at cost (Market Value: \$185,977)	207,719
Other Funds:	
Secured Deposits	2,300,000
Fixed-Interest Securities at lower of par or cost	354,998
Ordinary Shares, at cost (Market Value: \$229,407)	173,078
	<u>3,412,509</u>
Sundry Debtors—	
Accrued Government Grants	63,613
Other	272,396
	<u>336,009</u>
Stocks on Hand	310,381
Payments in Advance	13,591
	<u>4,083,148</u>

(IV) STATEMENT OF INCOME AND EXPENDITURE OF TRUST FUNDS
FOR YEAR ENDED 31 DECEMBER 1970

<i>Income—</i>		\$
Interest on Investments	.....	3,561
<i>Expenditure—</i>		
J. W. Dodds Memorial Scholarship	.....	400
Monash University Rowing Club	.....	53
The David B. Rosenthal Memorial Trust	.....	50
William and Katherine Winter Foundation	.....	3,108
Hume Turnbull Scholarship	.....	624
		<u>4,235</u>
Deficit for the Year	.....	<u>674</u>

BALANCE SHEET AS AT 31 DECEMBER 1970

		\$	\$
Trust Funds—		Cash at Bank	2,786
Balance, 1 January 1970	65,355	Investments	77,395
<i>Add:</i>			
Endowments Received	15,500		
	<u>80,855</u>		
<i>Deduct:</i>			
Deficit For Year	674		
Balance, 31 December 1970	.....	<u>80,181</u>	<u>80,181</u>
		<u>80,181</u>	<u>80,181</u>

(V) STUDENTS' LOAN FUND
STATEMENT OF INCOME AND EXPENDITURE
FOR YEAR ENDED 31 DECEMBER 1970

		\$
<i>Income—</i>		
Donation	50,000	
Interest on Fixed Deposit	751	
Interest on Loans	1,357	
Bank Interest	122	
	52,230	
<i>Expenditure—</i>		
Nil		
Surplus transferred to Students' Loan Fund		52,230

BALANCE SHEET AS AT 31 DECEMBER 1970

	\$		\$
Students' Loan Fund—		Cash at Bank	1,246
Balance, 1 January 1970	64,150	Loans to Students—	
Surplus for Year	52,230	Long-term	42,388
		Short-term	4,753
Balance, 31 December 1970	116,380	Accrued Interest	993
		Fixed Deposit	67,000
	116,380		116,380

CERTIFICATE BY MONASH UNIVERSITY

In our opinion the statements of accounts herewith, numbered (I) to (V), correctly record the transactions of Monash University for the year ended 31 December 1970.

1 July 1971

J. A. L. MATHESON
Vice-Chancellor

F. H. JOHNSON
Comptroller

AUDITOR-GENERAL'S CERTIFICATE

PURSUANT TO THE PROVISIONS OF SECTION 36 OF THE MONASH UNIVERSITY ACT 1958

The books and accounts of Monash University for the year ended 31 December 1970 have been audited by an officer acting under my direction. In my opinion, the statements of account herewith numbered (I) to (V) are correct.

2 July 1971

B. HAMILTON
Auditor-General

