

MONASH UNIVERSITY



Report  
of the  
Council

1966



**REPORT OF THE COUNCIL  
OF MONASH UNIVERSITY  
1966**

*Printed by Wilke & Co. Ltd., Melbourne*

# REPORT OF THE COUNCIL FOR 1966

---

In accordance with section 41 of the *Monash University Act 1958*, I submit the annual report of the Council of the University for 1966.

## 1. THE COUNCIL

The Council held thirteen meetings during the year, three of these being graduation ceremonies.

At the graduation ceremony on 2 April, the University's first honorary degree, that of Doctor of Laws, was conferred upon His Excellency, the Governor-General, the Right Honourable Lord Casey. At the same ceremony, the University Mace, the gift of Sir Archie Michaelis and designed by Mr. Matcham Skipper, was presented and carried in procession for the first time. During the year the honorary degree of Doctor of Science was conferred upon Dr. C. F. Cori and that of Doctor of Medicine upon Professor F. Fenner.

The first representatives of the newly-established faculties of Education and Law took their places on the Council during the year: the faculty of Education elected Professor W. H. Frederick and the faculty of Law the Right Honourable Sir Douglas Menzies. Professor W. A. G. Scott resigned his membership on proceeding overseas on study leave and the professors elected Professor J. D. Legge to fill the resulting vacancy for one year. Miss B. A. Woodberry's term of office as a representative of the graduates of the University expired and her place was taken by Mr. B. Wentworth. In addition, the Council provided by statute for the election in 1967 of one member of the Council by the students of the University and, pending the first election, the students elected Mr. J. H. Price to sit, by invitation of the Council, as an observer at meetings.

Sir Robert Blackwood and Sir Michael Chamberlin continued to serve respectively as Chancellor and Deputy Chancellor of the University.

The Council noted with pleasure the award of the C.M.G. to Mr. G. P. H. Wilson in the Queen's birthday honours list.

## 2. DISTINGUISHED VISITORS

The University continues to be honoured by an increasing number of distinguished visitors from home and overseas and from many callings and professions: such evidence of growing interest in Monash

and its work is very encouraging. Among distinguished visitors during 1966 were —

His Excellency the Governor-General, the Right Honourable Lord Casey and the Lady Casey,

His Excellency the Governor of Victoria, Major-General Sir Rohan Delacombe and Lady Delacombe,

The Honourable J. S. Bloomfield, Minister of Education for Victoria and Mrs. Bloomfield,

The Right Honourable Arthur Calwell,

The Right Honourable the Lord Mayor of Melbourne, Councillor I. F. Beaurepaire and Mrs. Beaurepaire, and

The Chancellor of the University of Tasmania, Sir Henry Somerset and Lady Somerset.

### 3. DEVELOPMENT OF SITE AND BUILDINGS

The public lecture theatre (now named The Alexander Theatre after Professor Samuel Alexander) was virtually completed by the end of 1966 and scheduled to be in use during the early part of 1967.

The third stage of the engineering heavy laboratories was completed in February, and the same contractor then directed his efforts to the completion of the engineering lecture theatres. Construction of this latter project finished in May 1966.

The first stage of the bio-medical library was completed in March and taken into use at the commencement of the 1966 academic year.

Work on the halls of residence complex was completed, and all three halls are now occupied, providing accommodation for 519 students and 81 others.

Work commenced on the new law school in October 1966. This 4-storey building is scheduled for completion in December 1967.

Working drawings for the new circular lecture theatre block for Humanities were completed and tenders were called towards the end of the year. The building will contain seven lecture theatres and will be joined to the Alexander Theatre by a foyer link. It is scheduled for completion in December 1967.

Planning for the new Religious Centre was completed, and construction is expected to commence early in 1967.

Planning for the Great Hall continues, and it is currently hoped that construction will commence in 1968.

Site Works, embracing extensions of the University's road, water and electrical systems, continued.

### 4. ADMINISTRATIVE MATTERS

#### *Legislation*

During the course of the year twenty-one of the University statutes were amended and four new statutes were introduced including a

statute enabling for the first time in the University, the election of one member of the Council by the students in the University. The first election under this statute will be held in June 1967. University regulations made under statutes also received considerable attention. Amendments or the substitution of new regulations were made in a number of cases.

Late in the year an appointment was made of a full-time legal officer to deal with the increasing volume of internal legal matters in the University.

### *University Publishing*

The pattern for the official publications of the University — Calendar, faculty handbooks, Gazette, "General Information for Students" — has now been established, and these were again issued during the year.

Through its Publications Committee the University recently entered the field of academic publishing following agreement in 1965 with Melbourne University Press for joint publishing in a number of areas. A work on the Northern Territory pastoral industry will be the first to appear under this scheme. The Committee also publishes independently and at the beginning of the year produced a small book entitled "Aspects of Australia's Defence".

## 5. STAFF APPOINTMENTS

Staff recruitment was maintained at a satisfactory level during 1966, although the high demand for teaching staff continues and

	Arts	Eco- nomics and Politics	Educa- tion	Engi- neering	Law	Medi- cine	Science	Total
Deans	1	1	1	1	1	1	1	7
Professors	15( 3)	5 (1)	1(1)	4	2	10	13( 1)	50( 6)
Readers	1	2( 2)	—	—	—	4( 2)	1( 1)	8( 5)
Associate Professors	2( 3)	—	1	1	—	3( 2)	1	8( 5)
Senior Lecturers	25( 5)	15	8(3)	16(3)	7( 5)	24( 1)	33( 6)	128( 23)
Lecturers	57(13)	25( 7)	5(3)	18(4)	4( 4)	28( 4)	33( 8)	170( 43)
Senior Teaching Fellow (extended)	6	—	—	—	—	—	2	8
Senior Teaching Fellows	25(10)	3	1(1)	3(2)	2( 2)	21(13)	21( 6)	76( 34)
Teaching Fellows	18(11)	13(10)	—	—	3( 3)	1( 2)	8( 4)	43( 30)
	150(45)	64(20)	17(8)	43(9)	19(14)	92(24)	113(26)	498(146)

replacements of academic staff leaving Monash University to take up other appointments represent an increasing proportion of the total appointments made.

The total of 498 full-time academic staff at 31 December 1966 shows a net increase of 79 on the December 1965 figure. The table on p. 5 shows the figures at 31 December 1966 with numbers in brackets of those who took up their appointments at Monash in 1966. The figures include a small number of short term appointments.

Academic staff who left Monash University during 1966 to take up other appointments were:

Professors	1
Associate Professors	1
Senior Lecturers	10
Lecturers	15
Senior Teaching Fellows	27
Teaching Fellows	13
	—
	67
	—

In addition, professional library staff increased during the year by 8 to a total of 41.

Administrative staff of the grades of administrative assistant and above increased by 9 to a net 56 in the central administration, and in academic departments and ancillary services administrative staff in similar grades increased by 8 to a total of 19. The overall full-time staff of the University stood at 1,623 in December, 1966, compared with 1,201 in December, 1965.

Of the full-time academic staff who took up appointment during the year, 99 (of whom 82 had taken their first degree in Australia and 17 overseas) were recruited from Australia and 47 (of whom 13 had taken their first degree in Australia and 34 overseas) were recruited from overseas.

The following professors took up their duties in 1966:

Swan, J. M., D.Sc. *Melb.*, Ph.D. *Lond.*, F.R.A.C.I. (Organic Chemistry)

Brunt, Maureen D., B.Com. *Melb.*, Ph.D. *Harv.* (Economics)

Dunn, S. S., B.A., Dip.Ed. *Adel.*, B.Ed. *Melb.*, M.A.Ps.S., M.A.C.E. (K. S. Cunningham Chair of Education)

McBriar, A. M., B.A. *Melb.*, M.A. *Oxon.* (History)

King, A., M.A., Dip.Ed. *Oxon.* (English)

Neustupny, J. V., prom. fil. *Charles*, C.Sc. *Oriental Institute, Prague* (Japanese)

At the invitation of the Council, Professor D. Cochrane, formerly professor of Economics and part-time dean of the faculty of Economics and Politics, and Professor K. H. Hunt, formerly professor



of Applied Mechanics and part-time dean of the faculty of Engineering, took up appointment as full-time deans of their respective faculties with effect from 20 June 1966. Dr. I. C. Macdonald, who had been on loan from the Department of Health since 1962, accepted appointment as medical counsellor on the staff of the Monash University health service.

On being invited to accept appointment to the chair of Russian in the University of London, Professor R. G. A. de Bray became the first member to resign from the professorial staff of the University. In December 1966 it was announced that Professor D. P. Derham, dean of the faculty of Law and the Sir Owen Dixon Professor of Law, had been appointed to succeed Sir George Paton as Vice-Chancellor of the University of Melbourne. Professor Derham's resignation from his chair was regretfully accepted from 29 February 1968 and from the deanship from either that date or another to be mutually agreed. In December, Council appointed Professor A. J. Marshall, professor of Zoology and Comparative Physiology, to a Personal Research Chair of Zoology.

During the year Council established for the first time three research/senior research fellowships tenable for a maximum of three years each for unsupervised research in any academic department of the University. The successful applicants were Dr. A. Spry, M.Sc. *Adel.*, Ph.D. *Tas.*, F.G.S., senior lecturer in geology in the University of Tasmania, Associate Professor F. R. Routley, M.A. *N.Z.* and *Princeton*, of the department of Philosophy, University of New England, and Dr. I. D. Rae, M.Sc. *Melb.*, Ph.D. *A.N.U.*, post-doctoral research associate, department of Chemistry, Massachusetts Institute of Technology. Professor O. J. M. Smith, professor of Electrical Engineering in the University of California at Berkeley, took up a year's appointment as visiting senior research fellow in August, and Dr. D. Wilkie, reader in Microbial Genetics at University College, London, came to a visiting readership in the department of Biochemistry for six months. In addition, a total of 21 full-time research appointments were made in more junior grades.

The following professors were appointed in 1966 and will take up duty in 1967:

Jackson, A. C., M.A. *Melb.*, Ph.D. *Cantab.* (Philosophy)

Porter, R., B.Med.Sc. *Adel.*, M.A., B.M., B.Ch. *Oxon.* (Physiology)

Campbell, Enid M., LL.B., B.E. *Tas.*, Ph.D. *Duke* (Sir Isaac Isaacs Chair of Law)

Fensham, P. J., M.Sc. *Melb.*, Ph.D. *Brist.* and *Cantab.* (Ian Clunies Ross Chair of Education)

The University records with regret the deaths of Mr. R. A. Harrison of the clerical staff of the central administration and Mr. H. Parker of the library staff.

## 6. ACADEMIC DEVELOPMENT

The following degrees and diplomas were conferred by the University in 1966:

	<i>Male</i>	<i>Female</i>	<i>Total</i>
Bachelor of Arts	70	94	164
Bachelor of Arts with Honours	9	9	18
Master of Arts	1	1	2
Bachelor of Economics	46	6	52
Bachelor of Economics with Honours	8	2	10
Bachelor of Engineering	7	—	7
Bachelor of Engineering with Honours	11	—	11
Bachelor of Medical Science	5	—	5
M.B., B.S.	25	4	29
Master of Engineering Science	2	—	2
Bachelor of Science	12	3	15
Bachelor of Science with Honours	16	1	17
Master of Science	5	—	5
Doctor of Philosophy	13	1	14
	230	121	351
Diploma in Education	63	42	105

## VICE-CHANCELLOR'S REPORT

The reports in the following pages from the faculties and from the library, together with the list of publications in section 12, describe the academic progress and achievements of the University during the year. Taken as a whole they describe the developing life of a large, established, and expanding University, and this is perhaps how 1966 can best be characterized. It was the year in which we changed from being a "new" university, growing rapidly, to a large university still growing rapidly.

Such a year brings with it a sense of achievement, and this we gratefully record. It also produces, however, the rather special and troublesome characteristics of a time of transition. Problems which had been solved reappear writ twice as large and there is a demand for both the reliability and efficiency necessary in a large organization and the adaptability to cope with continuing changes. Among our attempts to deal with some of these demands in 1966 three may be mentioned by way of background to what follows.

When the selection and enrolment of students involved only a few hundreds, a manual system operated by a few clerks was adequate; when numbers reach the thousands something more is needed and recourse must be had to computers. But, as everyone who has been

involved will know, the conversion of a manual operation to a mechanized one is apt to be a longer and more complicated process than had been anticipated, and this certainly has been our experience. Nevertheless, electronic data processing procedures have been successfully applied to a growing number of operations in academic and financial administration.

In the area of student enrolment, the Victorian Universities Admissions Committee has been established and is working to bring the three universities within the same system. It is hoped that when it is properly established the V.U.A.C. central office will not only make things easier and quicker for the applicant; it will also enable faculty selection committees to handle routine applications in a sure and quick fashion which will allow greater attention to be paid to the fewer but, usually, more complicated special cases. The establishment of V.U.A.C. and our own experience will, we hope, result in procedures adequate to carry us through to our full size of 12,000 or so undergraduates.

A second "transitional" problem with which we have continued, and shall continue, to wrestle relates to our academic structure. Reference to the appointment of full-time deans and faculty secretaries, and the institution of faculty boards was made in the 1965 Report. The basic University structure, so organized, of largish departments each with several professors, grouped into faculties each with its dean and a modest administrative organization, seems to be working quite well but cannot yet, of course, be taken for granted. Some among us worry, for example, that the faculty structure may be too rigid to encourage regular re-thinking and re-planning of the curricula; it is too early to say. Meanwhile the business of coping with an extra thousand or more students each year leaves little time or energy to spare for such re-organization of the courses. Enough is currently taking place, however, to leave me quite confident that when the pace of growth slackens even a little the energy so released will be increasingly devoted to working over and modifying the academic programme.

The third "transitional" problem is of a different kind. It relates to buildings and it concerns not only Monash. 1966 was the last year of the triennium and, because of the fast rate of construction in 1964 and 1965, saw very few buildings being built. Indeed, in the spring of 1966, with Howitt Hall and the Alexander Theatre practically finished, building activity on the site reached its lowest level since 1960. Towards the end of the year the first "green light"\* buildings of the new triennial programme, the law building and the circular block of lecture theatres, were started. By mid-1967 it is to be expected that the new programme will be well under way, but it is clear

\* These are buildings which we are permitted to plan in advance so that construction can start right at the beginning of a triennium.

that very little new space will be available before 1969. Those deans whose reports reveal accommodation difficulties can therefore expect an increasingly uncomfortable time during 1967 and 1968. All this is an inevitable consequence of the triennial system with its periodic interruption of orderly progress. We wish we could foresee the introduction of a system which would ensure better continuity in the building programme.

With these and other, we hope transitional, problems we have been concerned during the year. Important as they are, however, and troublesome as they may sometimes be, they are much less important than the men who cope with them. It is therefore encouraging to be able to report that the quantity and quality of the new recruits to our staff have been well maintained. A new situation is beginning to appear that might not have been expected so soon: some of our brightest people are being attracted elsewhere. But while it is sad to lose good colleagues it is a matter for some satisfaction that the wisdom of our choice is thus confirmed. In this connection we record with both pride and sadness the appointment of Professor D. P. Derham, dean of the faculty of Law, as Vice-Chancellor of the University of Melbourne. He will leave Monash to take up his new duties early in 1968.

Two further items of interest not referred to elsewhere in this Report deserve mention. The Leverhulme Trust Fund of Great Britain made available £3,200 sterling per annum to provide each year for a period of five years two visiting fellowships, whereby the University might send senior members of its academic staff to universities in Asian countries and invite senior members of Asian universities to visit Monash. In addition, 1966 saw the making of an agreement for an annual exchange of staff between Monash University and the University of Leningrad, under which one senior member of staff may give lectures for two months and one postgraduate student may do research work for ten months in the other University. Both these developments are important contributions to university life and inter-university relationships.

Some of the work and concerns of the staff during the year are indicated in the following pages.

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

The number of first year Arts students increased from 982 in 1965 to 1,208, of whom a higher proportion than usual (402) were part-time. The total undergraduate enrolments rose from 1,701 to 2,297. 32 fourth year students completed their degrees with honours as against 17 in 1965 and the number of enrolments for higher degrees rose from 67 to 109. The staff was increased only by 11 to a total

of 162, which meant that the staff student ratio was less favourable than in previous years. For the three years of the new triennium 1967-9 it is proposed to limit the first year to 1,110, but a considerable increase in staff will be needed to cope with the increases in enrolments in higher years.

Three new professors arrived during the year: Professor A. King (second chair of English), from the University of Western Australia, Professor J. V. Neustupny (Japanese), from the Prague Oriental Institute, and Professor A. C. Jackson (second chair of Philosophy), from the University of Melbourne. Two further chairs, being second chairs in the department of Anthropology and Sociology and in the French section of the department of Modern Languages, were approved for 1967. In September Professor R. G. A. de Bray, who had been appointed the first Professor of Russian at Monash in 1963, resigned to take up the chair of Russian Language at the School of Slavonic Studies in the University of London. At the end of the year, Dr. Ross Duncan, who had recently been promoted to an Associate Professorship, resigned on appointment to the foundation chair of History at the University College of Wollongong. Mr. D. Bradley, senior lecturer in English, was promoted to Associate Professor. In August Professor W. A. G. Scott left for a year's study leave to be spent mainly in Oxford.

New subjects offered in 1966 were Music, Spanish, Greek, Ancient History, and Linguistics. Latin was extended to second year, Anthropology and Sociology and Russian to third year, and Geography to fourth year honours.

It has been decided that the activities of the Centre of South-east Asian Studies now justify the appointment of a full-time Director, who will be attached to the staff of one of the departments most closely concerned, and it is hoped to make an appointment in 1967. The Board of American Studies has also been active, mainly in the undergraduate field, co-ordinating courses from different disciplines which have an American content.

In Modern Languages a comprehensive phonetics laboratory has been established under Professor Hammarström. With the help of the Myer Foundation, a start has also been made in literary and linguistic data processing, which is of interest to the departments of English and Classical Studies as well as to various sections of the department of Modern Languages.

The research station established at Daylesford for investigation into forest climates by the Geography department is now operative.

During the year the faculty has attempted to provide more general advice to first year students, assigning them to voluntary advisers, normally members of departments in which they were proposing to major. The scheme has had a limited success. It is proposed in 1967 to link it more closely with tutorial teaching, and to supplement it by

appointing a small group of enrolment advisers for the beginning of the session, so that all first year students have their courses approved before enrolment.

The faculty has also been concerned with the development of research, and with ensuring that the varying research needs of members of staff are met in the most economical way from the funds available. Two primary needs are that the teaching load should be kept within bounds and the resources of the main library vastly extended. More money is also needed for research assistance and for travel grants which will enable research workers to gain access to materials not available in Melbourne. Some departments have been very successful in attracting graduates from other universities. We have been less successful in building up our own honours schools as a foundation for postgraduate work. The main difficulty seems to be financial. So many of our better students are bonded to the Education Department and for many others the Commonwealth Scholarship scheme is inadequate. The faculty is well aware of the contribution it needs to make to the training of secondary school teachers, but under the present system this function tends to dominate all others.

The publications of individual members of departments are listed elsewhere. Attention should also be drawn to the continued success of the *Journal of French Studies*, which has now reached its third volume, and to the inception on a modest scale of *Apeiron*, a journal for Ancient Philosophy and Science issued by the department of Classical Studies.

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

The rapid expansion of the faculty that has taken place since 1961 continued into 1966. First year enrolments reached 475, an increase of more than 20 per cent on 1965. The total number of students enrolled for the B.Ec. degree increased from 680 in 1965 to 922 in 1966. However, the total full-time equivalent number of students taught by the faculty reached 1,050 in 1966.

To meet the needs of this growing student body additional staff were recruited. This was not an easy task, but despite the difficulties experienced the faculty has been fortunate in being able to attract a steady flow of people of high academic quality. Two members of staff, Dr. A. A. L. Powell and Dr. H. Feith, were appointed to readerships. It is particularly gratifying that Monash graduates are now beginning to make a contribution to the recruitment of junior staff.

In April 1966 some 30 graduates of the faculty had their degrees conferred. A further 90 qualified for their degrees at the annual examinations in 1966.

Having successfully organized a substantial array of subjects for the degree of bachelor, the faculty turned its attention in 1966 to a more detailed examination of the requirements for the degree of master. With the steady growth in the volume of knowledge and the increasing complexities of the techniques used in economics and the related fields of study, it had become increasingly apparent that students required more course work than could be provided in the first degree. Accordingly a Master of Economics degree by course work was introduced and teaching will begin in 1967.

Simultaneously planning took place for a graduate programme of administration. This course of study has been designed to meet the needs of graduates of any faculty and will provide teaching in the various aspects of administration—both business and public—which are required for effective management. The M.Admin. degree will not be taught until 1968 but its introduction has already attracted a great deal of interest.

Professor F. H. G. Gruen, Dr. A. A. L. Powell and a group of staff members completed the study on *Long Term Agricultural Supply and Demand Projections — Australia 1965-1980*. This study had been commissioned by the government of the United States of America in 1964 and finance was provided by that government to undertake the project during 1965 and 1966. The report has been well received by government officials and by academics.

Regular seminars were held for staff and graduate students. A substantial proportion of these were conducted by visitors from interstate and abroad.

I mentioned in last year's report that the faculty had moved into its permanent premises in 1965 and that the accommodation difficulties of the first four years at Monash had been resolved. By the end of 1966 all the accommodation available to the faculty had been allocated and a number of junior staff were sharing studies. The result of trying to find as many places as was reasonably possible for the rapidly expanding numbers of students applying for admission to the faculty has brought serious accommodation difficulties in its wake. Unfortunately these difficulties do not appear capable of resolution during the current triennium and they therefore raise serious questions regarding the future intake of students into the faculty.

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

The faculty continued to grow rapidly during 1966. Enrolments for the course for the Diploma in Education included 168 full-time and 47 part-time students, while 82 part-time and two full-time students enrolled for the degree course. The first group of candidates —

six in number — were admitted to the course for the degree of Master of Education. Further large increases are expected at all these levels in 1967; and it is hoped to admit the first candidates for the Ph.D. then.

The recruitment of staff is proceeding equally quickly; ten new full-time academic appointments have been made for 1967, and, with the generous co-operation of the State Education Department, it has proved possible to recruit sufficient well-qualified and experienced teachers to act as part-time tutors in methods of teaching the various school subjects. A further chair was advertised early in the year and Dr. P. J. Fensham has been appointed. Dr. Fensham is at present a reader in the Chemistry department at Melbourne University. He holds a Ph.D. in social psychology as well as in chemistry. He will take up duty late in 1967 as professor of Science Education.

These appointments have caused the faculty to outgrow its accommodation on the tenth and eleventh floors of the Menzies Building, and it has only been by means of various temporary expedients that rooms have been found for all members of staff and for all seminars and tutorial groups. The pressure will, of course, be still greater in 1968; but it can now be expected that the new law school will be completed before the beginning of that academic year, and that the extensive additional accommodation provided in it will — directly or indirectly — provide much needed relief.

The faculty's own new building was included among the projects for which finance has been made available for the coming triennium. The architect's brief was completed in good time, and the project committee has already begun its consultations with him. Provided that A.U.C. approvals can be secured without too much delay, it seems that there are reasonable prospects of this building being available in time for the beginning of the academic year in 1969. Overseas authorities, such as the University Grants Committee and various university institutes of education in the United Kingdom, and the Educational Facilities Laboratories (financed by the Ford Foundation) and the University of South Florida in the U.S.A. have been most generous in providing detailed information about the planning of the newest buildings which have been designed for this purpose in those countries.

Several of the academic staff have had an opportunity to travel overseas during 1966. Professor Dunn has visited the University of Toledo in connection with the planning of an international research project for which he is Australia's representative; Mr. R. W. McCulloch has travelled via Geneva, Paris and London to various universities in Canada and the United States to take part in a conference to discuss the teaching of Educational Administration in universities; Mrs. A. Zainu'ddin is visiting Indonesia and Malaya to collect material for her own research into certain aspects of education in



Indonesia and in connection with our course in Comparative Education; and Mr. J. A. Wheeler, recently appointed to take charge of Methods of Teaching Modern Languages, is spending a period at the Goethe Institut at Munich early in 1967. All these visits have been financed by outside bodies. A number of distinguished overseas visitors, including an associate professor from the University of Moscow, have again visited the faculty and given us valuable help.

There has been a pleasing development in the number and scope of research activities. For the first time, one of the staff — Mr. Lindsay Mackay — has been given a substantial grant by the A.R.G.C. for his research into the evaluation of the P.S.S.C. physics course. Improvements have been made in the Monash play centre, temporarily housed in Birch Cottage, and from the beginning of 1967 it will become a recognized and properly staffed kindergarten so that it can play its part as a unit of a child study centre within the faculty. Other research projects now in hand include a number of studies concerning the effectiveness of programmed learning in various areas of study; a long-term study of selected Monash first year students with high academic potential; several studies to investigate the effectiveness of films and television, as alternatives to present methods of direct observation, in teacher training; a study of methods of evaluating the new biology courses for Victorian schools, and a critical review of public examinations in Australia. Other workers are investigating some of the causes of failure of overseas students here at Monash and the effects on pupils in schools of different methods of grouping for instructional purposes. Psychological studies include one into the effect of different types of housing on the recreational activities of children, another of the attitudes of adults to children's behaviour, and one of the impact of a mentally retarded child on the other members of a family. In the area of History of Educational Thought, a study is being made of the role of Robert Lowe in the establishment of the national education system in New South Wales; another is of the origins of Australian education before 1856; a third concerns the development of education in Indonesia, and a fourth deals with the analytically oriented philosophy of education to which a good deal of attention has been directed during the last ten years.

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

The numbers of graduate students during 1966 rose steadily to 41, showing an increase of 70 per cent on the figure for the previous year. It is predicted that a similar increase in numbers is possible for 1967. This expanding research activity is most encouraging, and shows good promise for the future.

During the year, the first two Doctor of Philosophy degrees awarded in the faculty were conferred and four degrees of Master were gained by graduate students and staff candidates.

At undergraduate level, student enrolments continued to rise, and an increase at intake of 30 over the previous year gave a first year number of 160. In the later years of the B.E. degree courses, the total number of students was 220 (an increase of 86).

The development of the faculty has now reached what might be regarded by some as approaching the "critical" size needed for a better utilization of the potential embodied in its facilities and the staff available. Although in the immediate future limitations will remain, the next few years should see the faculty entering a new phase of growth and consolidation.

Accommodation within the faculty for lectures to engineering and other students was brought to a better state by the completion at mid-year of the three lecture theatres to the east of the concourse, while stages II and III of the heavy laboratories were brought into use by the departments of Mechanical and Civil Engineering.

Towards the end of the year, planning commenced to complete the final four bays of the heavy laboratories. The restricted budget figure allowed for this work places the faculty in the almost impossible situation of usefully servicing and equipping much of the area.

Continuing space problems are still a cause for concern, and some second and third year courses are severely handicapped by the absence of permanent laboratory space. Staff office and tutorial room accommodation remains difficult, and further partitioning of space in the completed new buildings has unfortunately been found necessary.

The departmental structure of the faculty was modified at year's end by the approval of the Council to the abolition of the department of Applied Mechanics (which became a part of the department of Mechanical Engineering, with effect from 1 January, 1967). A chair of Materials Science, and a second chair in the department of Mechanical Engineering were approved during the year, and steps are in train to fill both of these new professorial positions.

In a number of ways, closer contact with industry and other concerns outside the University was established. Two intensive full-time courses of 5 to 6 weeks' duration were held for qualified staff in industry, given by the department of Mechanical Engineering. Aspects of noise and vibration were studied, during which lectures, practice and laboratory sessions were tightly scheduled. During the courses, staff from industry gave in return an effective contribution, by delivering seminars and speaking of their own experiences in coping with the many problems relating to this field in industry. Many lecturers from research institutions, the University of Melbourne, and private

practice amply supported the efforts of Monash staff. A number of Monash staff from departments other than engineering willingly participated. The faculty is most appreciative of the help given by all those who contributed to the two successful courses. Our gratitude must also be expressed to the management of Australian Paper Manufacturers Limited for the confidence shown in underwriting the costs associated with the courses. A further course on "Materials and their Reliability in Engineering" is planned for 1967.

The department of Electrical Engineering received from the State Electricity Commission for Victoria the gift of a network analyser, valued at about \$100,000. This useful item will contribute greatly towards improved teaching of power systems at undergraduate level, and will also be of great use in studies at graduate level.

A grant of \$1,500 to the department of Civil Engineering was made by James Hardie & Co. Pty. Ltd. for the purchase of equipment in support of a basic research study into the action of expansive clays on buried structures.

In the department of Chemical Engineering, two senior research workers are on leave from industry, and are supported by their firms. Four research projects in the faculty received financial assistance from the Australian Research Grants Committee, and nine other projects have been approved to receive grants in 1967. The engineering research colloquia held at regular intervals throughout the year were well supported by local, interstate and overseas speakers. These continue to be an important feature of the activities in the faculty.

During the year, a course of lectures on gas absorption, with and without chemical reaction, was given by Professor Fumitake Yoshida, of Kyoto University, Japan, and on distillation and thermodynamics by Professor Wayne C. Edmister, of Oklahoma State University. Professor O. J. M. Smith, of the University of California, Berkeley, joined the department of Electrical Engineering as a visiting senior research fellow.

The award of a Nuffield Dominion Travelling Fellowship in the physical sciences was made to Mr. S. Redman, a lecturer in electrical engineering.

Of particular interest is the award to Mr. P. Rogers of the first Sir Alexander Stewart Scholarship. Mr. Rogers, a chemical engineer, graduates early in 1967, after which he embarks upon extensive travel in Northern Australia and the territories. His field of study is "The Accommodation of Indigenous People to Modern Industrial Development". The faculty is most grateful to the donors of the Sir Alexander Stewart Memorial Fund for their continued support in encouraging the submission of worthwhile projects. Mr. Rogers' project is seen as the first of many.

*Faculty of Law (Dean: Professor D. P. Derham, M.B.E., B.A., LL.M. Melb.)*

In 1966 the development of the law school proceeded rapidly, in spite of the fact that the first year intake had to be reduced from the 1965 figure of 200 to 150 after it was learned that there was no possibility of having a building ready for law school use before 1968. Six of the seven planned third year subjects were established and taught and, through them, the first group from Monash's original intake of law students qualified for the degree of Bachelor of Jurisprudence. Some 413 undergraduate law students were enrolled in all years in 1966 and, when it became clear that a law school building could be ready for use by the beginning of 1968, it was decided to increase the first year quota number to 250 in 1967.

Senior staff were appointed to enable the fourth year subjects required for the LL.B. degree to be established in 1967; and junior members of staff were appointed to provide for the increased numbers of students in all courses. In all, five new senior appointments were made for 1967, and four junior appointments. In addition, steps were taken to fill the Sir Isaac Isaacs Chair of Law and before the end of the year it was known that Dr. Enid Campbell, associate professor of Law in the University of Sydney, had accepted election to that chair.

Dr. Campbell, B.Ec., LL.B. (*Tas.*), Ph.D. (*Duke*), Barrister and Solicitor, will take up her duties at Monash on 1 August 1967. She is at present on study leave from the University of Sydney at the University of Wisconsin. She will be the first woman professor ever appointed to a chair of law in Australasia. Dr. Campbell is a distinguished lawyer and scholar, and her most recent of many publications is *Parliamentary Privilege in Australia* (1966).

It was with regret that the University accepted the resignation of Dr. F. R. Beasley (Emeritus Professor of the University of Western Australia) in October 1966. Professor Beasley, as has previously been reported, had been principally responsible for the development of the law library and Monash will always be grateful to him for the magnificent start he gave to the law book collection. During the year Associate Professor Igor Kavass was appointed with the intention that, in addition to limited teaching duties, his prime task would be to build upon Professor Beasley's founding work and be the faculty's representative responsible for the complete development of the law library. Associate Professor Kavass was a senior lecturer in law at the University of Melbourne and at the time of his appointment was on study leave in the United States. He will spend the first few months of 1967 working in various of the great law libraries of the United States so that, when he takes up duties at Monash in the middle of 1967, he will be fully equipped to take over his law library responsibilities.

During the year Mr. P. G. Nash, senior lecturer in law and sub-dean of the faculty, accepted the foundation chair of law in the new University of Papua and New Guinea. He resigned from Monash to take up the duties of his new chair at the end of July 1966. Professor Nash was a very highly valued member of the law school staff. While his resignation was received with regret he took all good wishes from Monash for success in his new and challenging responsibilities.

Perhaps the most important event of the year was the start made on the law school building south of the Robert Menzies School of Humanities. The contract for the building was let and the builder began work in October 1966. It is hoped that the building work will be completed in November 1967. The law school continued to function satisfactorily in its temporary accommodation: in the ground floor of the north end of the central science building, in the western end of engineering building No. 1, and in the first floor of the Hargrave Library. The space provided for law in those areas was more than adequate for 1966 needs and will be just sufficient for 1967 needs. It is hoped to vacate those areas and occupy the new law school building before the beginning of the 1968 academic year.

The Victorian Education Department has recognized the degree of Bachelor of Jurisprudence as an undergraduate education suitable for a teaching career. The Director of Education has authorized me to say that the Department has accepted the degree for that purpose and that —

- (1) a student holding the degree of Bachelor of Jurisprudence may be considered for the award of a secondary studentship to take the Diploma of Education year or for employment as a temporary teacher; and
- (2) a student who has completed part of this degree may be considered for the award of a secondary studentship, particularly if his non-law subjects are appropriate.

To provide for the administrative needs of this school, which will grow from a student body of some 630 students in 1967 to one thousand or more in 1969, the administrative staff serving the faculty of Law was strengthened by the appointment of a senior administrative officer towards the end of 1966 as secretary to the faculty. Mr. Allan A. York, B.Com. (Melb), F.A.S.A., A.C.I.S., A.C.A.A., resigned his position as finance and administrative manager of Chesebrough-Pond's International Ltd. to accept this appointment and joined the Monash staff shortly before Christmas 1966.

In conclusion, it should be noted that in spite of the rapidity with which undergraduate teaching has been developed, the staff of the law school has been active and productive where writing and research are concerned, as the publication list submitted with this report will indicate.

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

### 1. Buildings

#### (a) CAMPUS

Planning started for the science south building which will contain an histology laboratory and tutorial rooms joined on to the west end of Anatomy. For the medical faculty \$250,000 was allocated 1967-69 for this purpose out of a building complex costing \$1,196,000.

Throughout 1966, planning has continued for the Monash Medical Centre. The Professorial Board set up a standing committee in August to keep under review all matters relating to the Medical Centre which could have an effect in the University, e.g., inter-disciplinary aspects, roads and traffic, visitors, and so on.

#### (b) DOWNTOWN

No new buildings were occupied or started this year, but planning and modifications, as the result of additional A.U.C. grants, have continued, for the medical schools at:

- (i) Alfred Hospital — 3-floor extension instead of the 2-floor extension previously granted and in addition fitting out the basement for library, storage, and tutorial rooms (April 1968).
- (ii) Prince Henry's Hospital — new building (Hospital and University project) to include clinical school, library, study area, department of Surgery and student residence (October 1969); department of Psychological Medicine (October 1968).
- (iii) Queen Victoria Hospital — new ante-natal clinic and labour wards (June 1969), extensions to Paediatrics (December 1967).
- (iv) Fairfield Hospital — additional residential accommodation (March 1967).

(The architects' forecast for finishing the projects above appears in brackets).

The effect of the 1967-69 grants, taken in conjunction with the previous triennium grants, still unspent, (those for teaching hospitals were not voted by Parliament until November 1965) will provide for a department of Psychological Medicine and a second chair of Surgery at Prince Henry's Hospital, also a department of Social and Preventive Medicine and a second chair of Medicine at Alfred Hospital.

For all these projects \$1,954,600 are available.

### 2. Students

Demands out of proportion to the places available continue and for 1966, 634 qualified applicants applied for the 160 available at Monash. Of those admitted and qualified for the grant (this excludes

overseas students), 111 or 77% have Commonwealth Scholarships. The number who started the year is as follows:

1st year	160	
2nd year	147	
3rd year	123	
4th year	103	
5th year	68	
6th year	31	
B.Mes.Sc.	Nil	Total: 632

### 3. Selection of Students

The decision has been taken to select students for 1968 in this faculty by criteria identical with the University of Melbourne, using the aggregate of the three best subjects, modified by the Anderson formula, and with the prerequisite subjects chemistry, physics or a branch of mathematics.

### 4. Graduation

On December 14, 1966, the first medical students graduated M.B., B.S. (Monash). Of the 31 who sat for the annual examination, 29 passed.

14 were appointed junior resident medical officers at Alfred Hospital,

10 at Prince Henry's Hospital,

3 at Royal Hobart Hospital,

1 at Geelong Hospital,

1 at Warrnambool Hospital,

1 proceeded to a research position.

(One passed in supplementary examinations.)

### 5. Curriculum

Approval was given by the Medical Board of Victoria on February 6, of the three final years of the course as appropriate for registration in this State, approval of the first three years having been given in 1965. From November 30-December 1, representatives of the General Medical Council paid a visitation to Monash University. This visit is required for the recognition or otherwise of the qualifying medical degree of this University so that registration may be granted to Monash medical graduates in the United Kingdom whether for those practising or for those doing postgraduate courses in hospitals. A comprehensive submission on history, development, aims, curriculum, finance and buildings was presented.

The report of the General Medical Council and its recommendations may be expected later in 1967.

### 6. Compulsory Pre-registration Year

The faculty discussed at length earlier in the year the need for a

compulsory pre-registration (or intern) year, recognizing that Victoria was the only State in Australia without this statutory requirement. A modern medical course cannot cover all the technical and vocational aspects of medical practice without which no graduate can safely practise, nor should he be allowed. Accordingly it resolved that a pre-registration year was necessary and this in turn was approved by Professorial Board and Council.

A deputation from Melbourne and Monash Universities waited on the Minister of Health in April and put this view jointly and strongly. They were told that this matter would be carefully considered, but no reply had been received by the end of the year.

#### 7. *E.C.F.M.G.*

Twenty-four of the thirty-one students in sixth year took the examination of the Educational Committee for Foreign Medical Graduates and all passed. The total number tested at this global examination was 9,962 and 43.5% passed. This qualified them to take appointments in approved training positions of United States Hospitals.

The faculty has drawn the attention of the chairman of the Hospitals and Charities Commission to the inadequate number of resident posts available for the very considerable increase in medical graduates from both Universities over the next five years (150, rising to 320). If the training opportunities of these graduate students are of a low standard, and the number of places severely restricted, there is a real danger that many new graduates will go to the U.S.A. for their training, where they are very welcome. (2,361 of 7,309, in 1965-66, internships available were filled by foreign medical graduates.) Many, particularly the brightest, might then be lost for all time to this community.

#### 8. *Staff*

There were (December 31, 1966) the following staff numbers in the faculty:

Academic	
Full-time	82
Part-time	10
Technical	137
Clerical	31
Clinical Instructors	138

Professor R. Porter has been appointed to the second chair of Physiology and will take up his appointment later in 1967.

#### 9. *Payment of Visiting Medical Staff*

The increasing difficulties of attracting and retaining the appropriate staff as honoraries in our affiliated teaching hospitals led the



faculty, early in 1966, to resolve that it was contrary to the interests of medical education in this University that the honorary system should continue. This was passed by Professorial Board and Council (April 1966) and conveyed to our teaching hospitals, the University of Melbourne, A.M.A., and Royal Medical Colleges. There is unanimity among those organizations now in support of this view; moreover, payment for teaching has been recommended in two A.U.C. reports and the Martin Committee on Tertiary Education. However, this recommendation has been rejected on each occasion by the Federal Government.

The faculty has asked for a deputation to wait on the Minister of Health jointly with the University of Melbourne to put the view that payment for teaching is necessary if standards are to be maintained.

#### *10. Research*

A vigorous programme is proceeding in all departments. Grants to the faculty from all sources, including those from the A.U.C. (special research purposes), A.R.G.C. and outside organizations totalled \$322,826. Publications numbering 166 are to be found listed by departments elsewhere in this report.

There are still serious outstanding deficiencies of equipment in some departments, which is restricting the development of the research programme.

#### *11. Television*

The purchase of a television van with its micro-wave link has added a new dimension to this ancillary teaching method, allowing now the recording on videotape, or micro-wave live telecasting, of hospital teaching and practice. A start has been successfully made of using this new facility.

A number of successful demonstrations was given during the year on closed circuit, particularly from the department of Physiology.

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

In August Professor K. C. Westfold returned from study leave spent in Cambridge and resumed his duties as dean, allowing Professor P. D. Finch to return to full-time duties in the department of Mathematics. The only new professor appointed to the faculty was Professor B. R. Morton, who will join the department of Mathematics early in 1967.

The departments of Botany and Psychology began their first year

teaching in the faculty, and the introduction of a new third year course, Microbiology IIIB, was approved. Teaching in this subject will begin in 1967.

In order to facilitate the progress of students who fail narrowly in subjects outside their major interest, the faculty decided to introduce a new classification in its first and second year examinations below the normal grade of pass, which is now to be designated "pass division I". The new grade, to be designated "pass division II", will credit a student with having satisfied the examiners in the subject for terminal purposes, but not for the purpose of proceeding to the next stage.

It is worth noting that the first year pass rates in individual subjects has been rising with the higher cut-off score for selection of students. In the 1965 annual examinations the pass rate fell below 80 per cent in only two subjects. At the time of writing, it appears that a further improvement will be recorded in the 1966 examinations.

The number of students enrolling for higher degrees has increased with the increase in staff numbers. The figures for 1964, 1965, and 1966 are 101, 134, and 184 respectively.

With the publication of the A.U.C. report for the 1967-69 triennium came government approval for three new buildings, a north building to house the department of Mathematics and the computer centre, a south building connected to the medical school to house the department of Botany and provide further space for the departments of Psychology, Physiology, and Anatomy, and a lecture-theatre block. Project committees have been active in preparing briefs for the architects so that building can proceed with the minimum of delay on our part.

Faculty plans to develop geology and agricultural science in the triennium were not approved.

#### *Department of Botany*

Early in the year the department moved into the space in "E" block of medicine which has been altered to accommodate it until the permanent building is finished. This area provides research and office space for all the staff, but no teaching laboratories. First year teaching is done in the Biology laboratory and second and third year teaching will be in the "C" block laboratory, which is being made out of the old medical undergraduate common room.

Two senior staff members joined early in 1966: Dr. A. A. Holland, senior lecturer in mycology and plant pathology, and Dr. D. F. Gaff, lecturer in plant physiology. Both have begun vigorous research programmes, taken part in the first year teaching, and have prepared many courses for the second year classes starting in 1967.

Dr. Churchill has organized the first year practicals and continues his research on vegetation history. He has also launched a scheme for

the survey of all the plants in Victoria with a view to publishing maps, one for each species, showing its presence or absence in grid squares 10 minutes of arc each way. A group of interested people has been formed, "The Plant Survey Council of Victoria", with representatives from such bodies as the Herbarium, the Lands Department, the Forests Commission, and C.S.I.R.O., grants of money for maps and office equipment obtained, and the preliminary listing of all the present records accomplished. The next step is to punch these records on to computer cards and prepare lists of species likely to be found in the different regions of the State. These will form the basis for cards on which the field records will be made. It is hoped to launch the project to the public during 1967 and to make use of naturalists throughout the State to record species. The whole project is planned to take about ten years.

The application of serologic methods to mycological problems is being investigated by Dr. Holland in the mycology section of the Botany department. The aims of this investigation are:

1. The distribution of antigenic patterns amongst strains of fungi within an accepted species;
2. A study of the basic relationship between a host plant and pathogenic fungi via fluorescent antibody techniques to detect and localize the site of specific antigens;
3. The use of specific fluorescent antibody stain techniques as part of an ecological study of soil-borne fungal pathogens.

To date serologic methods have not been applied to mycological problems in Australia. However, a number of research groups in America, France, and Japan are actively engaged in this field. It is of interest to note that one of the specific recommendations of the 1966 Australian Conference of Plant Pathologists was that the application of serological techniques should be fostered in the field of virology, bacteriology, and mycology. A grant of \$5,700 has been received from the Rural Credits Development Fund of the Reserve Bank of Australia in connexion with the above research projects.

Professor Canny and Mr. Lumley have received a further grant of \$6,729 from the A.R.G.C. for their work on translocation.

Development has begun of the Experimental Area on the south-eastern slope of the site. The area is fenced, planting has begun of plants for class and research material, and a fern-house is being erected for growing plants in high humidity and deep shade. The area is planned to contain several glasshouses and a head-house/laboratory, experimental beds, etc., which will be built over the next few years.

Three research students have joined the department during the year, one under each of the senior staff, and one teaching fellow, Miss Wilcox, has been appointed to work on a research problem supported by a grant of \$1,000 from a local frozen-food firm.

*Department of Chemistry*

The size of undergraduate classes and the numbers enrolled for higher degrees in the department have increased. Although these have led to increased loads for the academic staff, research activities have been maintained at a high level. The list of publications appearing elsewhere indicates the high productivity achieved.

Further grants have been received from the A.R.G.C. for work in microwave spectroscopy, for the purchase of a mass spectrometer to be used in programs of synthetic organic and inorganic chemistry, for equipment to improve the performance of the HR-100 nuclear magnetic resonance spectrometer and existing X-ray equipment and a high pressure autoclave unit for metal carbonyl synthesis. The A.A.E.C. contract for studies of dissolution of crystals, the Wool Board award for inorganic chemical research, and the Australian Meat Research Committee grant for research into new acaricides have been contributed for this year. Two grants-in-aid for research into new "synthetic" anthelmintics and insecticides were received from Merck, Sharp and Dohme (Australia) Pty. Ltd.

Ph.D. degrees were awarded during the year to:

M. J. O'Connor

R. H. Smith.

Professor Brown was invited to tour New Zealand by the Institute of Chemistry as guest speaker at their Annual Congress. He delivered the plenary address on "Chemistry and Education" and also lectured at Victoria University (Wellington), Canterbury University (Christchurch), Auckland University, University of Manawatu and University of Waikato.

Professor Swan visited the central laboratories of Merck, Sharp and Dohme in New Jersey, U.S.A., as a guest of the company.

A number of members of the department participated in the crystallography conference at Lucas Heights, and the R.A.C.I. Third National Convention in Canberra.

Professor F. G. A. Stone was visiting professor during July and delivered a very stimulating lecture course in organometallic chemistry to final year students. Other distinguished visitors to the department included Professor N. N. Greenwood (Newcastle-upon-Tyne), Professor F. A. Cotton (M.I.T.) and Dr. F. Lions (Sydney, Chemical Society Lecturer 1966).

*Department of Mathematics*

The number of students wishing to read mathematics continues to grow with the increasing size of the University. Moreover, the proportion of those doing mathematics of one kind or another, either as specialists or in connexion with other subjects, has risen. For example, the number of first-year students who elected to read Mathematics I was, in 1966, 50% higher than predicted. Although

the immediate effects of such increases are to impose an unpalatably heavy teaching load on members of staff, in the long term such an increased interest in mathematics is what is required to overcome the great shortage of mathematicians in Australia.

1966 saw the department in temporary accommodation in the Menzies Building. Splitting the department in this way has imposed great difficulties in communications and we shall, unfortunately, have to work under such difficulties until we are able to move into the North Science Building.

Joining the department in 1966 were Dr. M. J. Englefield, from the University College of North Wales, Bangor, as a senior lecturer, Mr. J. O. Murphy, from the Royal Military College, Duntroon, as a lecturer, and Dr. D. H. W. Held, from the School of General Studies, A.N.U., as a lecturer. Dr. B. R. Morton, from the University of Manchester, was appointed to the chair of Applied Mathematics vacated by Professor K. C. Westfold and was expected to arrive to take up his duties early in 1967. Dr. Morton's research interests centre on geophysical fluid dynamics.

About twenty-four research students and junior members of staff were reading for higher degrees in 1966, making a nucleus which it is hoped will develop into a flourishing graduate school.

The department is now becoming justly well-known throughout the world for its contributions to research. Some comments on the more active areas are appended.

Professor Janko and Dr. Held are working on the problem of determining and classifying all finite simple groups. Some of the alternating groups and some of the linear simple groups have been characterized in an elegant way. Research in functional analysis by Professor Miller and students has centred mainly around the study of various species of continuous operators acting on Banach algebras. Definitive results have been obtained by Mr. R. J. Loy on some structural properties of derivations. Professor Preston, Mr. Sullivan and Mr. Buckdale have studied representations of semigroups, semi-groups of transformations, and relations in semigroups.

Professor Van der Borgh has investigated the problem of non-radial oscillations of massive stars. Together with Mr. Murphy he has studied the problem of anharmonic oscillations of an early main-sequence star. Dr. Englefield has made a study of bounds on scattering phase shifts and used the Laplace transform method to solve the Schrodinger radial equation. Dr. Ignaczak has investigated the eigenvalue problems for an ordinary linear differential equation of the fourth order involving several parameters and made a study of matrix conditions of synchronization of a motion. Dr. Fackerell has continued his work on relativistic stellar dynamics. Mr. Sudbury has studied the structure of rotating polytropes in the post-Newtonian approximation.

Professor Finch, Mr. Adams and Mr. Speed have successfully investigated problems concerning the relationships between quantum theory and lattice theory. Professor Finch has applied a lattice-theoretic approach to the study of dependence relations and has obtained definitive answers to a series of questions that have been open since first asked about thirty years ago. Dr. Phatarfod has completed an investigation of the statistical behaviour of the times at which a dam becomes empty. Dr. Watterson, Mr. Chia and Miss Langer are studying the evolutionary consequences of genetic populations in which the population size varies cyclically or randomly. Dr. Watterson and Mr. Legg have made a study of daily rainfall patterns at Melbourne and have devised a Markov-chain model which fairly accurately fits the observed pattern.

Professor Preston gave invited addresses to the annual meeting of the Australian Mathematical Society at Perth, to the semigroup section of the International Mathematical Congress in Moscow, to a Conference on the Algebraic Theory of Machines, Languages and Semigroups, in California, and to a gathering of specialists in semigroups, in Kyoto. Professor Miller also attended the Congress in Moscow, where he read a paper in the algebra section on derivations, and attended also a conference on generalized functions at Katowice. Dr. Watterson visited Stanford University by invitation to collaborate in a research project there.

The Journal of the Australian Mathematical Society continued to be edited at Monash. Professor Preston continued as editor, Professor Miller continued as assistant editor, and Professor Van der Borcht, Dr. Strzelecki and Dr. Watterson were appointed as associate editors.

The Victorian Schools Mathematics Research Foundation, set up largely by the efforts of Mr. G. C. Smith and Dr. Watterson, was founded early in the year. Professor Preston became the first president of the foundation and Dr. Strzelecki, Professor Finch and Mr. Smith were members of the foundation's executive committee. The foundation aims at keeping a continuing eye on the teaching of mathematics in schools and at initiating and co-ordinating plans to improve such teaching. The foundation has received wide support and has as members of its Council or other committees a representative cross-section from business, the universities, the schools and the Education Department. A project involving about a dozen teachers and concerned with the teaching of the new syllabus in high schools was well under way by the end of the year. The foundation is hoping to be able to finance the appointment of a director in the near future and it is grateful for the promise from the Vice-Chancellor that the University is prepared to provide office accommodation for such a director.

The department initiated a sequence of evening lectures for matriculation and leaving certificate students which were successful beyond expectation. A total of twenty-three lectures were given. Dr.

Strzelecki, Dr. Watterson, Mr. Speed, Dr. Fackerell and Mr. Adams were the lecturers and their aim was to entertain their audience by talking about mathematical topics selected for their intrinsic interest.

About seven hundred attended some of the early lectures and half-way through the series the audience was still in its hundreds. At the end of the sequence about fifty were attending. It is proposed to offer the sequence of lectures biennially.

#### *Department of Physics*

The teaching activities of the department continue to expand. During the year graduate students, on completion of the Ph.D. courses, took up appointments in the Universities of Chicago, Malawi, and Cambridge, and the Atomic Energy Research Establishment at Harwell. A great deal of effort has gone into the design of a first-year course for 1967, to follow on from the new matriculation PSSC course, introduced largely through the initiative of the department.

Teaching activities were not confined to the University itself. The department provided a lecture course on quantum mechanics and solid state physics for scientists at the Aeronautical Research Laboratories of the Department of Supply. Members of the department also contributed lecture courses at summer schools at the Universities of Melbourne and New England.

Significant developments in research activities include installation of the Lang X-ray camera, donated by the Ian Potter Foundation. The performance of the equipment has exceeded expectation, and it now appears possible to obtain photographs of the internal structure of solids at the rate of one every six hours.

A helium 3 cryostat has been constructed completely within the department, and is now providing temperatures within 0.5 degrees of absolute zero.

The Robertson Committee has recommended that the department be awarded \$27,000 for research into magnetic resonance in minerals, spin density waves in metals at low temperatures, and hyperfine fields acting at nuclei in solids.

Dr. J. R. Chamberlain of Mullard Research Laboratories has joined the staff as a senior lecturer and has begun a research programme on the optical properties of rare earth ions in solids. Dr. G. V. H. Wilson has rejoined the department on a Queen Elizabeth fellowship after two years' research at Oxford under Dr. Kurti. Members of Dr. Wilson's group have recently achieved their first objective of orienting nuclei at very low temperatures by allowing large magnetic fields to act on them.

Members of the department have continued with programmes of investigation of the magnetic structure of solids using neutron diffraction facilities at the Australian Atomic Energy Research Establishment at Lucas Heights, Sydney. During the year it has been possible

for us to initiate research programmes utilizing the high magnetic field facility, energized by the homopolar generator at the A.N.U., Canberra.

Research in electron spin resonance and non-linear optics benefited from the presence of Dr. J. M. Spaeth of II. Physikalisches Institut der Technischen Hochschule, Stuttgart, on a post-doctoral research fellowship of the German National Scholarship Foundation, and Dr. H. Morawitz from I.B.M. Research Laboratories, California, on a Department of Supply post-doctoral grant.

Mr. G. J. Troup's monograph, "Masers and Lasers", which has recently been published in Russian and German, is now being prepared for publication in Italian. Professor Street has been awarded a D.Sc. by the University of London.

#### *Department of Psychology*

Teaching in Psychology I (Science) and Psychology IIA (Arts) was begun during 1966 with enrolments of 17 and 56 respectively.

Following A.R.G.C. grants of \$19,680 (1965) and \$5,190 (1966) a Neuropsychology unit has been established. This is accommodated in the Medical School.

There is now an establishment for 12 academic staff as against 7 in 1965. Technical and clerical staff have been increased by 4 and 2 respectively.

#### *Department of Zoology and Comparative Physiology*

Professor A. J. Marshall has accepted a personal research chair in zoology and it is expected that the vacant position of professor of zoology and chairman of the department will be filled in 1967.

A new appointee, Dr. P. R. V. Nayudu (lecturer), arrived in May. Dr. Nayudu is establishing senior courses and research work in experimental embryology.

The department has continued to broaden the curriculum offered to third and fourth year students, thus allowing them some scope within which to develop their interests. However, we continue to feel somewhat hampered in our teaching efforts due to the lack of a biological field station where students may be brought into closer contact with the complexities of natural populations of plants and animals.

The use of the biological reserve, "Snake Gully", has increased as more research projects dealing with the ecology and behaviour of native species have begun. A joint project with the zoology department of Sydney University on the uncaged population of possums in Snake Gully is under way. A notable addition to the reserve is a series of observational cages to hold native cats.



The department has benefited by two visiting scientists spending their sabbatical years with us: Dr. B. N. Brattstrom, California State College at Fullerton, and Dr. R. E. MacMillen, Pomona College, California.

Two members of the department, Dr. I. A. E. Bayly and Dr. W. D. Williams, left on study leave and will be working at Yale and Waterloo Universities respectively.

### *Computer Centre*

The working hours for the Computer Centre's Control Data 3200 computer doubled in 1966 to reach 250 hours per month, even though the computer's speed was substantially increased by the addition of a floating-point arithmetic unit. There are over 180 regular users among university staff and research students, and more than 250 students and staff who attended programming courses during the year also used the computer.

A government grant of \$160,000 for the next triennium has enabled equipment to be ordered to extend the 3200 so that after April 1967 it will have a 32,000-word memory, two small disc drives, four magnetic-tape units, a 1,000-line-per-minute printer and punched-card and paper-tape facilities. A small PDP 8 computer has also been ordered and this will be used to control remote teleprinter terminals with access to the 3200, using an operating system being developed by the Computer Centre. Automatic plotting facilities will also be available using a 30-inch Calcomp plotter which has been purchased by the Economics department and will be installed in the Computer Centre.

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

By the end of 1966, the University library had grown to approximately 231,000 volumes. 5,524 periodicals were being currently received.

Stock was distributed as follows: the main library (125,000 volumes), the Hargrave Library for the physical sciences and engineering (32,000), the law library (29,000) and the bio-medical library with 21,000 volumes on the Monash campus, 7,000 at the Alfred Hospital, 1,500 at Queen Victoria Hospital, and further small collections at Prince Henry's, Fairfield, and Royal Park Hospitals.

As expected, space in the first stage of the bio-medical library building was outgrown within its first year of operation. A.U.C. allocations for the coming triennium have suggested that a measure of relief here, as well as in the main library, where crowding is also

becoming critical, and the Hargrave Library, which will be relieved by the erection of a law school, incorporating the law library, should be forthcoming shortly. In the meantime, conditions for staff and students will be extremely difficult.

Loans for the year were as follows:

	<i>Staff</i>	<i>Student</i>	<i>Total</i>
Main Library	19,985	126,647	146,632
Hargrave	15,387	21,058	36,445
Bio-Medical			
(a) Monash	13,402	13,691	27,093
(b) Alfred	5,640	3,655	9,295
(c) Queen Victoria	1,083	409	1,492
Totals	<u>55,497</u>	<u>165,460</u>	<u>220,957</u>

Photocopying services were extended during the year by the installation of a further machine in the bio-medical library. Prints produced for staff and students amounted to 155,566, for the University as a whole.

At end of 1966 the total library staff was 105.

Through the inter-library loan service, 10,046 items were obtained from other libraries. Our indebtedness is clear when it is noted that our loans to other libraries amounted to only 1,043 volumes.

The library has again received gifts from many sources. The Council's appreciation of these gifts has been conveyed to the donors.

## 7. STUDENT ENROLMENT

Once again Council is able to report a further substantial increase in enrolments of students. The net total undergraduate population increased from 3,906 in the previous year to 5,254, an increase of 1,348 or 35%. Postgraduate enrolments increased from 210 to 372 and gross enrolments from 4,283 to 5,924. Despite the substantial increases in undergraduate enrolments where community pressures are greatest, there were still substantial numbers of applicants who gained admission neither to Monash University nor to the University of Melbourne. It is hoped that the additional places which will be made available by La Trobe University in 1967 will reduce the gap between supply and demand. Full details of enrolments are given in the accompanying tables.

## Distribution of Students by Faculty, Year, Sex and Full- or Part-time

## Gross Enrolments as at July 31

Faculty & Year	FULL-TIME			PART-TIME			TOTAL		
	M	F	T	M	F	T	M	F	T
Arts I	331	470	801	225	170	395	556	640	1196
II	206	297	503	92	76	168	298	373	671
III	150	187	337	25	32	57	175	219	394
IV	23	9	32	—	—	—	23	9	32
Total Arts	710	963	1673	342	278	620	1052	1241	2293
Eco. & Pol. I	305	57	362	94	12	106	399	69	468
II	213	33	246	42	1	43	255	34	289
III	117	12	129	26	2	28	143	14	157
IV	8	—	8	—	—	—	8	—	8
Total Eco. & Pol.	643	102	745	162	15	177	805	117	922
Engineering I	159	1	160	—	—	—	159	1	160
II	114	1	115	3	—	3	117	1	118
III	65	1	66	2	—	2	67	1	68
IV	38	—	38	—	—	—	38	—	38
Total Engineering	376	3	379	5	—	5	381	3	384
Law I	131	13	144	4	2	6	135	15	150
II	129	14	143	5	1	6	134	15	149
III	77	14	91	2	—	2	79	14	93
Total Law	337	41	378	11	3	14	348	44	392
Medicine I	134	24	158	—	—	—	134	24	158
II	122	25	147	—	—	—	122	25	147
III	105	17	122	—	—	—	105	17	122
IV	85	18	103	—	—	—	85	18	103
V	62	6	68	—	—	—	62	6	68
VI	27	4	31	—	—	—	27	4	31
Total Medicine	535	94	629	—	—	—	535	94	629
Science I	229	57	286	16	10	26	245	67	312
II	170	42	212	22	2	24	192	44	236
III	89	26	115	—	2	2	89	28	117
IV	24	3	27	—	—	—	24	3	27
Total Science	512	128	640	38	14	52	550	142	692
Gross Total Undergraduate	3113	1331	4444	558	310	868	3671	1641	5312
Adjustment for students enrolled in more than one course	52	3	55	1	2	3	53	5	58
Net Total U/graduate	3061	1328	4389	557	308	865	3618	1636	5254
Educ. Dip. Bach.	84	84	168	35	10	45	119	94	213
2	—	—	2	67	16	83	69	16	85
Total Education	86	84	170	102	26	128	188	110	298
Master	90	36	126	53	27	80	143	63	206
Ph.D.	152	14	166	—	—	—	152	14	166
Total P/graduate	242	50	292	53	27	80	295	77	372
Total Students	3389	1462	4851	712	361	1073	4101	1823	5924

**OVERSEAS STUDENT ENROLMENT — 1966**  
**Distribution of Overseas Students by Country, Faculty and Sex**

Country of Permanent Home Residence		Arts	Eco. & Pol.	Engin.	Medicine	Science	Law	Education	Total
Malaysia	M	12	33	17	39	25	2	1	129
	F	8	8	1	10	8	1	1	37
	T	20	41	18	49	33	3	2	166
Singapore	M	1	2	9	17	3	—	—	32
	F	5	—	—	3	—	—	—	8
	T	6	2	9	20	3	—	—	40
Hong Kong	M	—	2	6	13	12	1	—	34
	F	5	—	—	—	2	—	—	7
	T	5	2	6	13	14	1	—	41
Indonesia	M	—	2	7	1	—	—	—	10
	F	2	—	1	1	—	—	—	4
	T	2	2	8	2	—	—	—	14
Thailand	M	—	4	4	1	—	—	—	9
	F	—	8	—	1	—	—	—	9
	T	—	12	4	2	—	—	—	18
Sth. Vietnam	M	—	2	8	—	—	—	2	12
	F	—	1	—	—	—	—	—	1
	T	—	3	8	—	—	—	2	13
India	M	—	—	3	—	4	—	—	7
	F	—	—	—	—	—	—	—	—
	T	—	—	3	—	4	—	—	7
New Zealand	M	2	—	1	1	2	—	—	6
	F	1	1	—	—	1	—	1	4
	T	3	1	1	1	3	—	1	10
New Guinea	M	—	—	—	1	—	—	—	1
	F	—	—	—	—	—	—	—	—
	T	—	—	—	1	—	—	—	1
Great Britain	M	1	—	1	—	3	—	—	5
	F	1	—	—	—	—	—	—	1
	T	2	—	1	—	3	—	—	6
U.S.A.	M	—	—	1	—	1	—	—	2
	F	—	—	—	—	—	—	—	—
	T	—	—	1	—	1	—	—	2
Burma	M	—	—	—	—	—	—	1	1
	F	—	—	—	—	—	—	—	—
	T	—	—	—	—	—	—	1	1
Fiji	M	—	—	—	1	1	—	—	2
	F	—	—	—	—	—	—	—	—
	T	—	—	—	1	1	—	—	2
Macao	M	—	—	1	—	—	—	—	1
	F	—	—	—	—	—	—	—	—
	T	—	—	1	—	—	—	—	1

Nepal	M	—	—	1	—	—	—	—	1
	F	—	—	—	—	—	—	—	—
	T	—	—	1	—	—	—	—	1
Belgium	M	—	—	—	—	—	1	—	1
	F	—	—	—	—	—	—	—	—
	T	—	—	—	—	—	1	—	1
Kenya	M	—	—	—	—	1	—	—	1
	F	—	—	—	—	—	—	—	—
	T	—	—	—	—	1	—	—	1
Hawaii	M	—	—	—	—	—	—	—	—
	F	1	—	—	—	—	—	—	1
	T	1	—	—	—	—	—	—	1
W. Germany	M	1	—	—	—	—	—	—	1
	F	—	—	—	—	—	—	—	—
	T	1	—	—	—	—	—	—	1
South Africa	M	—	—	—	—	—	1	—	1
	F	—	—	—	—	—	—	—	—
	T	—	—	—	—	—	1	—	1
Israel	M	—	—	—	—	—	—	—	—
	F	—	—	—	—	1	—	—	1
	T	—	—	—	—	1	—	—	1
Iran	M	—	—	—	—	—	—	—	—
	F	1	—	—	—	—	—	—	1
	T	1	—	—	—	—	—	—	1
Canada	M	—	—	—	1	1	—	—	2
	F	—	—	—	—	—	—	—	—
	T	—	—	—	1	1	—	—	2
Pakistan	M	—	—	—	—	1	—	—	1
	F	—	—	—	—	—	—	—	—
	T	—	—	—	—	1	—	—	1
Brunei	M	—	—	—	1	—	—	—	1
	F	1	—	—	—	—	—	—	1
	T	1	—	—	1	—	—	—	2
Total Overseas Students	M	17	45	59	76	54	5	4	260
	F	25	18	2	15	12	1	2	75
	Total	42	63	61	91	66	6	6	335
Percentage of total enrolment		1·8	6·7	14·2	13·0	8·1	1·4	2·0	5·8

## 8. STUDENT FACILITIES

### *Student Residence*

No new developments have arisen to ease the problem of student accommodation, nor has there been any major improvement in public transport facilities. There seems little prospect of the emergence of any new transport service linking the inner eastern suburbs and the University. Yet these are areas from which an appreciably higher proportion of students would undoubtedly come to Monash, and in which very many student lodgings could be found, if only it were not so difficult to travel from them to the University as it is at present.

The last of the three halls of residence in the North-East Halls group was completed during 1966 and partially occupied in third term. For the 1967-9 triennium, no money has been made available for student flats, but a sum of \$960,000 is provided to build a new hall of residence for 200 students. When this is completed, there will be approximately 750 students (including some postgraduate students) living on the campus. At that stage, the total student population will be about 9,300 and will rise further during the three years which must then elapse before any buildings envisaged in the following triennium can come into operation. Some small alleviation of the problem may meanwhile result from the opening of an affiliated College.

Clearly, however, for a very long period, most Monash students whose homes are overseas, interstate, in country areas or in distant suburbs, will continue to depend on the precarious provision of accommodation in private suburban homes. As the area in which such accommodation must be sought expands, students are being forced to travel increasing distances, using valuable time and money, which they can ill afford.

Suitable cheap board is increasingly difficult to find and many students in all years are handicapped by having to accept less than full board and to fend for themselves. Many students live too far from the University, whilst others, in order to save time and travel costs, find lodgings which are, in the opinion of the University, far from satisfactory.

There is urgent need for the provision of flats, or some type of accommodation providing independent living for senior and research students. Its lack presents a serious problem.

### *Health Service*

With the increased numbers of students and staff on the campus, there has been a corresponding increase in the number of visits to the health service. There has been no obvious change in the types of cases dealt with. No epidemics of consequence were encountered during 1966.

1,059 first year students were medically examined for the University by doctors of the School Medical Service during the last week of the first term.

Visits to the health service totalled 8,105 for the year.

First aid lectures to certain technical staff members were continued in 1966.

The present medical staff consists of a director, a medical counsellor and a sister.

Dr. I. C. Macdonald and Sister N. E. Creaton, who had been on loan from the School Medical Service of the Department of Health, both became full members of the staff of the health service during the year.

### *Bookshop*

During the year, the Monash University Bookshop greatly increased its stock of books and stationery, and added gramophone records and art prints to the services it offers.

The continuing increase in student numbers makes the Bookshop's operation in its present space increasingly difficult, and detracts from its profitability. Nevertheless, the results of the first trading year indicated that profitable operations should follow, and it is expected that the future will improve without restricting too far the facilities provided.

### *Careers and Appointments*

The careers and appointments office has continued its work aimed at promoting career achievement amongst graduating students. During 1966 the appointment of a second appointments officer permitted extension of promotional work amongst employers whilst the services to the graduates — a rapidly increasing number — were maintained and improved. These services include career counselling interviews, employer interviews at the University, career discussion groups, the publication of vacancy lists and representations to employers on behalf of individuals with special problems.

In addition, the office undertook the editorial work connected with the first issue of the Graduate Careers Directory, and has been prominent in negotiations for the formation of an independent body to continue this and related publications.

### *Student Counselling*

On the whole 1966 was a year of consolidation. Some 800 students sought counselling over a range of problems similar to that reported in 1965. The time spent with each student ranged from one to fifty hours with an average of one and one half hours per student for the year. On the preventive side, work on the process of transition was

intensified. A conference similar in essentials to the one in 1965 was held during first term vacation; 175 students and 35 members of staff participated. Prior to this conference 22 meetings were held with 47 members of staff to discuss student problems, staff student relationships, the teaching situation, its aims and methods, and their effects on student learning. Both phases were highly successful. Research in these areas is proceeding.

With the co-operation of a few students and the Rev. L. Hahn, a new experiment in group counselling was initiated during 1966. As an approach to counselling students, this method shows great promise and it is hoped to devote more time to this kind of activity in the future.

### *Religious Centre*

During 1966 the temporary Religious Centre was in daily use for religious services of the various denominations, discussion groups and interdenominational activities. Sunday services were of particular value to students resident in the University, and the chaplains report an increasing amount of pastoral work. Some student camps were also held.

An appeal by the churches for funds to build the permanent Religious Centre has received good support and building will commence in 1967.

## 9. STUDENT ACTIVITIES

Student activities increased considerably in 1966, and with the co-operation of other University departments in providing extra areas, there were as many as thirty activities taking place in some lunch periods. The students were encouraged to make full use of the Union, and its services — commercial and otherwise — were well patronised. The latter probably supplied one of the reasons for so many students visiting the University during the vacations.

In spite of some last-minute cancellations, the Orientation programme ran reasonably smoothly. The mornings were taken up with Introductory Lectures, and the afternoons and evenings were fully occupied with the wide range of student activities. Once again, the Union building was the focal meeting point for the non-academic functions.

In keeping with university students across the world, Monash students continued to show an increasing concern about social and international affairs and, in addition to demonstrations and pamphleteering which attracted publicity, the Students' Representative Council arranged three Forums or Teach-Ins. These dealt respectively



with Vietnam, Education, and Conscription, and prominent speakers included the Minister for External Affairs, Mr. P. Hasluck, Mr. J. F. Cairns, Mr. D. Chipp, Mr. H. P. Schoenheimer (senior lecturer in education), Professor D. G. Hall, and Dr. F. Knopfelmacher. Student attendance at the Forums varied between 1,200 and 2,000. Two library Sit-Ins were also held. Over 2,000 students attended the first, with 450 remaining overnight. At the second Sit-In the respective numbers were 1,500 and 250.

The internal organization of the S.R.C. greatly improved with the appointment of an administrative secretary to assist in financial control. Work on a 300-page "S.R.C. Manual" was completed.

The development of both indoor and outdoor sporting facilities resulted in considerable impetus to all activities. The highlight of the year was probably that Monash achieved the first wins since its entry into inter-varsity sport. These were recorded in judo, skiing (men and women), women's basketball, badminton, and golf. The high level of active participation in all sports is shown by the fact that Monash now ranks with Melbourne, Sydney, and Queensland in the number of sports competed in at intervarsity. The Sports Association continued its policy of being particularly interested in the less skilled performer and the panel of coaches was increased. A coaches' dinner and seminar was conducted with mutual benefit to all concerned. The Association also held a two-day conference of all Australian university sports officers and a two-day seminar for curators of sports grounds, which was attended by curators from interstate and local schools and from councils.

A development of considerable importance was the establishment of the Monash Sports Medicine and Research Centre. During the period from May to November some 170 students received specialized attention from a panel of doctors, physiotherapists and a dentist. During November the centre was used as a base for testing overseas and local athletes who were in Melbourne for the World Pentathlon series.

Non-sporting clubs also continued their diverse range of activities and seventeen new clubs were formed during the year.

Highlights of club activities were the Choral Society's performance of the Beethoven Mass in C in St. Paul's Cathedral, and the Monash Players' production of "The Glass Menagerie" in the Moomba Festival, both of which received noteworthy press reviews.

## 10. FINANCE

Funds for expenditure on recurrent purposes during the year ended December 31, 1966, were available from the following sources:

	<i>Totals</i>	<i>University</i>	<i>Teaching Hospitals</i>	<i>Halls of Residence</i>
	\$000	\$000	\$000	\$000
State Government Grant	4,861	4,829	32	—
Academic Fees	1,381	1,381	—	—
Commonwealth Government Grant	3,397	3,358	17	22
	<u>9,639</u>	<u>9,568</u>	<u>49</u>	<u>22</u>

The legislative sanction for the Commonwealth contribution is contained in the Universities (Financial Assistance) Act No. 68 of 1963 as amended by Acts Nos. 40 and 101 of 1965.

Government funds available for expenditure on non-recurrent purposes during the 1964-66 triennium were as follows:

Buildings, Equipment and Furniture —	\$000
On University site, other than Halls of Residence and Affiliated Colleges	8,740
Halls of Residence	2,220
Affiliated Colleges	200
Teaching Hospitals	770
Computing Facilities	200
Research —	
A.R.G.C. Projects	325
A.U.C. Special	350
	<u>675</u>
	12,805

The legislative sanction for the Commonwealth portion of each of these amounts (i.e. one-half) is contained in the Universities (Financial Assistance) Act No. 68 of 1963 as amended by Acts Nos. 40 and 101 of 1965, and in the States Grants (Research) Act 1965.

In addition to the above amounts received directly from Government sources, the sum of \$153,000 was received from Government-financed bodies for the conduct of specific research projects and for the support of post-graduate students. Institutions coming within this category include the National Health and Medical Research Council, the Commonwealth Scientific and Industrial Research Organization and the Commonwealth Office of Education.

During the course of the year, a bequest of \$125,000 was received from the estate of the late Harold Armstrong. This is the largest benefaction so far received by the University. The amount has been suitably invested and the income will be applied in accordance with the wishes of the testator.

No change was made in the scale of fees payable by students enrolled for the year 1966 in comparison with the fees payable in 1965. A summary of the table of fees is set out hereunder.

*Academic Fees —*

Undergraduate Courses:	full-time	\$336 per annum
Postgraduate Courses:		
Master —	full-time	\$120 per annum
	part-time	\$60 per annum for first two years and \$15 per annum thereafter
Doctor of Philosophy—	full-time	\$81 per annum
Higher Doctorate —		\$150

*Union Fees —*

Students studying on Campus:	full-time	\$42 per annum
	part-time	\$28 per annum
Students studying off Campus:		\$15 per annum

Legislation was enacted during 1966 for the provision of funds for the 1967-1969 triennium, the grants being:

(i) *Recurrent Funds —*

	1967		1968		1969	
	\$000	% Incr.	\$000	% Incr.	\$000	% Incr.
University	11,060	15.6	12,282	11.0	13,358	8.8
Teaching						
Hospitals	79	43.6	89	12.7	95	6.7
	11,139	15.8	12,371	11.1	13,453	8.7

Calculation of the amount of grants to halls of residence for recurrent purposes on a per hall and per student basis will remain unchanged.

(ii) *Non-recurrent Funds —*

	\$000
On University site, other than Halls of Residence and Affiliated Colleges	9,500
Hall of Residence	960
Affiliated Colleges	2,172
Teaching Hospitals	1,347
Computing Facilities	160
Research —	
A.R.G.C. Projects	} (a)
A.U.C. Special	
	14,139 + (a)

(a) A.R.G.C. allocations are made annually during the triennium and A.U.C. Special Research Grants for this triennium have at present been fixed at a minimum of \$270,000.

The University's accounts for the year 1966 are appended to this Report.

## 11. GIFTS AND DONATIONS

The following grants and gifts were received by the University:

\$US46,600, over three years, from the United States Public Health Service to Professor A. W. Linnane (Biochemistry) for investigation of the control of the formation of mitochondria in cells.

\$27,565 from the National Heart Foundation of Australia for research as follows:

\$9,830 to Dr. C. L. Gibbs (Physiology).

\$7,235 to Dr. M. E. Holman (Physiology).

\$4,700 to Dr. K. H. McLean (Medicine).

\$3,200 to Dr. D. A. Lowther (Biochemistry).

\$2,600 to Dr. G. A. Bentley (Physiology).

\$25,494 from the Anti-Cancer Council of Victoria for research as follows:

\$9,610 to Dr. T. Ghose (Pathology).

\$7,736 to Professor R. C. Nairn (Pathology).

\$4,020 to Dr. K. J. Catt (Medicine).

\$3,128 to Dr. W. G. R. M. de Boer (Pathology).

\$1,000 to Mr. F. T. McDermott (Surgery).

\$22,500 from Merck Sharp & Dohme (Aust.) Pty. Ltd. for research as follows:

\$12,000 over three years to Professor J. M. Swan (Chemistry) for research on heterocyclic compounds.

\$6,000 to Professor Swan for the appointment of a post-doctoral fellow to work on insecticides.

\$3,000 to Professor J. Bornstein (Biochemistry) for research on the chemistry and biological activity of pituitary polypeptides.

\$1,500 to the department of Biochemistry as a contribution towards the expenses of Dr. C. Cori.

The expenses of Professor J. M. Swan were also paid for a visit to Merck Sharp & Dohme's laboratories in New Jersey, and to the National Institute's of Health in Washington, and Stanford University.

\$20,000 from Mr. and Mrs. E. I. Parrish for the establishment of the Cecile Parrish Scholarship in the department of English, in memory of their daughter, formerly lecturer in English.

\$10,400 from the Ian Potter Foundation to Dr. A. C. McLaren (Physics) for the purchase of a Lang X-ray camera.

\$7,500 from the Collier Charitable Fund.

\$7,440 from the Australian Institute of Nuclear Science and Engineering for research in the department of Physics as follows:

\$3,600 to Mr. G. Troup for "E.S.R. Studies of Radiation Damage".

\$1,200 to Dr. J. H. Smith for research on antiferromagnetic structures in manganese alloy systems.

\$780 to Dr. P. P. Phahey and Dr. A. C. McLaren for research on radiation damage of quartz minerals.

\$460 to Professor R. Street and Mr. J. D. Brown for research on neutron diffraction studies of chromium alloys.

\$400 to Professor R. Street for research on incommensurate spin density wave structure.

\$400 to Mr. G. Troup for research on statistics of scattered photons and Cerenkov radiation.

\$300 to Professor R. Street for research on the effect of magnetic field on the magnetic structure of chromium.

\$300 to Dr. A. L. Jones for research on the effect of specific activity upon solubility.

\$5,000 from Carlton and United Breweries Ltd. to Professor A. W. Linnane (Biochemistry) towards the establishment of a yeast genetics unit.

\$US5,000 from Parke Davis & Co., Michigan, to Professor A. W. Linnane, department of Biochemistry.

\$3,000 from the Myer Foundation for a research fellow (Mrs. Georgette Silva) in literary and linguistic data processing.

\$2,000 from the Patrick Brennan Trust for research as follows:

\$1,000 for research in the department of Surgery.

\$1,000 to Dr. Mollie Holman for research in the department of Physiology.

\$1,500, over three years, from James Hardie & Co. Pty. Ltd. for research by the department of Civil Engineering into the action of expansive clays on buried structures.

\$1,000 from Mrs. Winifred Roach, Kew, for the library.

\$600 from Mr. and Mrs. H. Goodman towards the establishment of a Child Study Centre by Associate Professor Elwyn Morey (Education).

\$600 from the W. C. F. Thomas Charitable Trust to assist in erecting a law library in the law school.

\$590 from the Social Science Research Council of Australia for a study tour in South-east Asia by Mrs. Ailsa Zainu'ddin (Education).

\$500 from the Oliver Affleck Fund for the purchase of books for the law library.

\$400 for the library and \$20 for prints for the University Health Service and the Sports Medicine Centre, from the Monash Parents' Group.

\$400 for the Child Study Centre from the Monash Pre-School Committee.

\$250 from Rosenhain and Lipmann Pty. Ltd. for the faculty of Engineering.

\$250 from Riker Laboratories Australia Limited to the department of Physiology for general research.

\$222 from the Ford Motor Company to the department of Mechanical Engineering for its Combustion Engine Laboratory.

\$200 from Pechiney, Compagnie de Produits Chimiques et Electro-metallurgiques, Paris, for the Australian Journal of French Studies (department of Modern Languages).

\$100 from the Australian-Asian Association for proficiency prizes in Indonesian and Malay.

\$100 for the careers and appointments office from Mount Isa Mines, Queensland.

\$91.33 from La Societe d'Electro-Chimie, d'Electro metallurgie et des Acieres Electriques d'Ugine for the Australian Institute of French Studies.

\$50.35 to the library, being the proceeds of a collection taken by students at a library Sit-In, July 1966.

\$50 from La Societe le Carbone-Lorraine for the Australian Journal of French Studies.

\$50 from Altona Petrochemical Co. Pty. Ltd. for the careers and appointments office.

\$20 for the library from Mrs. R. Baines, Oakleigh.

\$20 from members of a management course run by Mayne Nickless Ltd. in Deakin Hall.

Royalties due to Professor D. P. Derham and Professor P. L. Waller, on the sales of "Cases and Materials on the Legal Process", for educational purposes in the faculty of Law.

An annual prize of \$40 from the Commercial Bank of Australia for proficiency in Psychology I.

An annual prize of \$40 from W. D. Scott & Co. Pty. Ltd. for proficiency in Psychology II.

An annual prize of \$40 from Philips Industries Pty. Ltd. for proficiency in Psychology IIA.

An annual prize from the Australian Branch of the British Psychological Society for proficiency in fourth year work in Psychology.

A photograph of the ceremony at Bertangles Chateau at which a knighthood was conferred on Sir John Monash, and a letter signed by Sir John Monash about this ceremony, from Mr. F. Latimer, East Brighton.

Donations of ethnographic objects from Fiji, New Guinea, and the Trobriand Islands, for the museum of the department of Anthropology and Sociology from the Rev. and Mrs. S. Albon, Miss J. Albon, the Rev. H. Chambers, Mr. J. A. Davidson, Miss Olga van Rijswijck, and Mrs. Edith Williams.

A number of human bones for the department of Anatomy from Mr. and Mrs. B. H. Thwaites, Ocean Island.

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 to departmental libraries.

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

<i>Investigator</i>	<i>Title of Project</i>	<i>Amount \$</i>
Marwick, M. G.	Survey of families	4,700
Rankin, H. D.	The early Cynics	750
Bicknell, P. J.	The coinage and policy of Gaius (Caligula)	500
Love, H. H. R.	Determination of edition variants by computer	1,140
Wilson, M. G. A.	A study of the black coal industry, 1954-65	710
Laufer, R.	Critical editions of 17th and 18th century French texts	1,800
Morcovescu, N.	Formal analysis of texts	550
Shaw, A. G. L.	Governors' policies in Australia 1800-1855	1,200
Gruen, F. H. G.	Multi-sectoral analysis of supply and demand	2,300
McLaren, G. C.	A model of investment behaviour in Australia	1,750
Feith, H.	Ideology in contemporary Indonesia	2,886
Hanfi, Z. A.	The social basis of traditional political ideologies in India	1,900
Mackay, L. D.	The development and testing of procedures for evaluation of physics curricula in secondary schools	7,000
Brown, R. H.	Plastics deformation and residual stress formation in machining	300
Walters, J. K.	Direct digital control and optimisation	5,500
Boger, D. V.	Heat transfers to non-Newtonian fluids	2,700
Potter, O. E.	Behaviour and design of fluidized bed reactors	20,000
Cullen, R. M. and Donald, I. B.	Geotechnical properties of the Yarra delta alluvial deposits	2,000
Rozvany, G. I. N.	Minimum volume synthesis of pre-stressed plates and other floor systems	4,398
Lampard, D. G.	Information coding in nervous system	3,450
Morsztyn, K.	The influence of linear and non-linear phenomena on transient voltages in high transmission lines and transformers	5,000

<i>Investigator</i>	<i>Title of Project</i>	<i>Amount \$</i>
Barden, R. G.	Surface effects in boiling liquid heat transfer	3,050
Waller, P. L.	The administration of the criminal law in Victoria	4,250
Austin, L.	The origin of axonal protein	5,165
Bornstein, J.	Hormonal control of bone growth	9,117
Lowther, D. A.	Structural aspects of connective tissues	1,400
Linnane, A. W.	The biogenesis of mitochondria	2,500
Catt, K. J. and Burger, H. G.	Secretion of human pituitary hormones	7,512
Marmion, B. P.	Analysis of growth requirements, anti- genic and chemical composition of <i>Mycoplasma pneumoniae</i>	460
Marmion, B. P.	Survey of respiratory illness and leukemia for evidence of mycoplasma infection	3,108
Clark, A. C. L.	Studies of erythropoiesis in the foetus and the infant	4,300
Nairn, R. C.	Immunological studies of biological specificity with particular respect to cancer-specific antigens	3,790
Woolley, G.	Mechanisms of pulsatile lymph flow	2,624
McDonald, I. R.	Adrenal function in monotremes and marsupials	7,000
Westerman, R. A.	Electrophysiology of regenerating olfactory paths in teleost fish	1,782
Canny, M. J.	Physiological and structural studies of phloem	6,729
West, B. O.	Somo chloro and fluoro substituted organometallic compounds	8,380
Brown, R. D.	Study of short-lived species by microwave spectroscopy	28,305
Deacon, G. B.	Studies of organometallic and co-ordination chemistry	3,523
Dickson, R. S.	Substituent effects in organometallic chemistry	1,750
Gatehouse, B. M. K. C.	Crystal chemistry of the solid state	7,842
Swan, J. M.	The design and synthesis of new organic compounds	43,185
Pilbrow, J. R.	Magnetic resonance studies of minerals	430
Troup, G. J.	Variable temperature electron spin resonance studies	5,822



<i>Investigator</i>	<i>Title of Project</i>	<i>Amount</i> \$
Street, R.	Magnetic properties of solids at low temperatures and high magnetic fields	25,500
Day, R. H.	The physiological basis of attentional mechanisms	5,219
Dorward, D. F.	Biology of the Cape Barren goose <i>Cereopsis novae-hollandiae</i>	1,050
Davis, D. G.	Genetic control and ontogeny of Pteridine metabolic pathways in drosophila	3,195
Ettershank, G.	Microclimatic regulation in desert ant nests	4,000
Lee, A. K.	Survival of frogs in arid regions	1,200
Nelson, J. E.	Comparative physiology, ecology and behaviour of the two native cats, <i>Dasyurus viverrinus</i> and <i>Satanellus hallucatus</i>	3,700

## 12. PUBLICATIONS

### FACULTY OF ARTS

#### *Department of Anthropology and Sociology*

- EVERS, D. H. — The formation of a social class structure — urbanization, bureaucratization and social mobility in Thailand. *American Sociological Review*, XXXI, no. 4, 1966.
- EVERS, D. H. — Kinship and property rights in a Buddhist monastery in Central Ceylon. *Ethnology*, V, no. 4, 1966.
- EVERS, D. H. — Some comparative notes on the organization of the Sangha in Ceylon and Thailand. *Social Sciences Review*, special issue on Buddhism, 1966.
- EVERS, D. H. (with T. H. Silcock) — Elites and Selection, in *Development in Thailand, Social and Economic Studies*, ed. T. H. Silcock, Canberra (A.N.U. Press), 1966.

MARWICK, M. G. — Man as seen by an anthropologist, in *Man and Morals*, ed. by Colin Cave, The Centre for the Promotion of Adult Education, Wangaratta, 1966.

*Department of Classical Studies*

- BICKNELL, P. J. — Dating the Eleatics. *For Services to Classical Studies*, (Essays in Honour of Francis Letters), 5-14, Sydney, 1966.
- BICKNELL, P. J. — to apeiron, apeiros aer, and to periechon. *In Acta Classica*, no. 8, 1-33, 1966.
- BICKNELL, P. J. — Anaximenes' 'Pilion' Simile. *Apeiron*, I, 17-18, July, 1966.
- BICKNELL, P. J. — A Triobol of Sybaris. *New Zealand Numismatic Journal*, xii, no. I (45) 2-5, October, 1966.
- CLARKE, G. W. — Irenaeus Adv. Haer, 4.30.1, *Harvard Theological Review*, 59, 95-97, 1966.
- CLARKE, G. W. — Minucius Felix Octavius 4.6, *Classical Philology* 61, 252+, 1966.
- CLARKE, G. W. — The date of the Consecratio of Vespasian. *Historia*, 15, 318-327, 1966.
- CLARKE, G. W. — Some victims of the persecution of Maximinus Thrax. *Historia*, 15, 445-453, 1966.
- CLARKE, G. W. — Three passages in Martial. *For Services to Classical Studies*, (Essays in Honour of Francis Letters), 47-54, Melbourne, Canberra, Sydney, 1966.
- ELLIS, J. R. — The Date of Demosthenes' First Philippic. *Revue des Etudes Grecques* LXXIX, 2, 52-55, 1966.
- ELLIS, J. R. and MILNS, R. D. — Theopompus, Fragment 103, Jacoby. *La Parola del Passato*, CVI, 56-60, 1966.
- RANKIN, H. D. — Poem, Epicurus' Garden, *Poetry Magazine*, Sydney, no. 2, 8, 1966.
- RANKIN, H. D. — Plato's Lost Pupil and the Banausic Education. *Apeiron*, I, 32, July, 1966.
- RANKIN, H. D. — Paradeigma and Realizability in Plato's Republic. *Eranos*, LXIII, 120-133, 1965 (published in 1966).

*Department of English*

- DAVISON, D. — Notes on Marvell's 'The Garden'. *Notes and Queries*, XIII, no. 1, 25-6, January, 1966.
- DAVISON, D. — Springsong, (poem). *Australian Letters*, 7, no. II, 19, 1966.
- DOUGLAS, D. — Six voices in the schools. *Idiom*, no. 6, August, 1966.
- DOUGLAS, D. — The text of Lawson's prose. *Australian Literary Studies*, II, no. 4, December, 1966.
- DOUGLAS, D. and SILVA, G. — A combinatorial concordance. *I.C.R.H. Newsletter*, II, no. 3, November, 1966.

- LOVE, H. H. R. — The authorship of the postscript of 'Notes and Observations on the Empress of Morocco'. *Notes and Queries*, January, 1966.
- LOVE, H. H. R. — The argument of Donne's 'First Anniversary'. *Modern Philology*, November, 1966.

*Department of Geography*

- DERBYSHIRE, E. and PETERSON, J. A. — Distribution and morphology of some Tasmanian lakes. *Newsletter Australian Limnological Society*, 5-8, 1966.
- DERBYSHIRE, E. — The Topographical Map. Angus & Robertson, Melbourne, ix + 45, 1966.
- JOHNSTON, R. J. — Central places and the settlement pattern. *Annals Assoc. American Geographers*, LIII, no. 3, 541-549, 1966.
- JOHNSTON, R. J. — Components of rural population change. *Town Planning Review*, XXXVI, no. 4, 279, 293, 1966.
- JOHNSTON, R. J. — An index of accessibility and its use in the study of bus services and settlement patterns. *Tijdschrift voor Econ. en Soe. Geographic*, 33-38, 1966.
- JOHNSTON, R. J. — Location of high status residential areas. *Geografiska Annaler*, 48, B., 23-25, 1966.
- JOHNSTON, R. J. — Distribution of an intra-metropolitan central place hierarchy. *Aust. Geog. Studies*, IV, no. 1, 19-33, 1966.
- JOHNSTON, R. J. — The population characteristics of the urban fringe: a review and example. *Aust. & N.Z. Journal of Sociology*, II, 79-93, 1966.
- LEA, D. A. M. — Suggestions for the improvement of indigenous subsistence horticulture. *Papua and New Guinea Agricultural Journal*, XVIII, 1-4, 1966.
- LEA, D. A. M. — Yam growing in the Maprik area. *Papua and New Guinea Agricultural Journal*, XVIII, 5-16, 1966.
- PETERSON, J. A. — Glaciation of the Frenchmans Cap National Park. *Papers and Proceedings of the Royal Society of Tasmania*, 117-129, 1966.
- PETERSON, J. A., with BAYLY, I. A. E., TYLER, P. A., and WILLIAMS, W. D. — Preliminary limnological investigation of Lake Pedder, Tasmania. *Newsletter A.L.S.*, V, no. 2, 30-41, March, 1966.
- PETERSON, J. A. — Ice-shore ridges and other ice shore features Whitegull Lake area, Labrador-Ungava. *McGill Sub-Arctic Research Paper*, no. 21, 82-94, 1966.
- RIMMER, P. J. and JOHNSTON, R. J. — Derelict land in the city of Bendigo. *Research Paper No. 11*, (Jointly by Department of Geography, University of Sydney and Geog. Soc. N.S.W.), 17, 1966.
- RIMMER, P. J. — Problem of comparing and classifying seaports. *Professional Geographer*, XVIII, no. 2, 83-91, 1966.
- WILSON, M. G. A. — Raw material changes in the Australian gas industry. *Australian Geographer*, X, 105-114, 1966.
- WILSON, M. G. A. — Natural gas developments in Australia. *Geography*, LI, 375-379, 1966.

*Department of History*

- DIXSON, M. J.—Reformists and revolutionaries in New South Wales 1920-1922. *Politics, The Journal of the Australasian Political Studies Association*, 1, no. 2, 135-151, November, 1966.
- DIXSON, M. J.—The first communist 'united front' in Australia. *Labour History*, no. 10, 20-31, May, 1966.
- GELBER, H. G.—Australia, Britain and the E.E.C. 1961 to 1963, Oxford University Press, Melbourne, xii + 296, 1966.
- GELBER, H. G.—Is China a Threat? *Quadrant*, X, no. 44, 47-51, Nov.-Dec., 1966.
- HANCOCK, I. R.—The 1911 imperial conference. *Historical Studies, Australia and New Zealand*, XII, no. 47, 356-372, 1966.
- HANCOCK, I. R.—Keeping up with Africa. *Australian Outlook*, XX, no. 1, 73-79, 1966.
- HANCOCK, I. R.—The Uganda Crisis, 1966. *Australian Outlook*, XX, no. 3, 263-277, 1966.
- KERTESZ, G. A.—Reflections on a centenary: the Austro-Prussian War of 1866. *Historical Studies, Australia and New Zealand*, XII, no. 47, 333-342, 1966.
- MCBRIAR, A. M.—Fabian Socialism and English Politics 1884-1918. Cambridge University Press, Cambridge (Second printing, rev., and paperback edition), x + 388, 1966.
- POTTS, E. D.—William Squire Kenyon and the Iowa Senatorial Election of 1911. *Annals of Iowa*, 3rd S., XXXVIII, 206-222, 1966.
- SHAW, A. G. L.—Convicts and the Colonies: A Study of Penal Transportation from Great Britain and Ireland to Australia and other parts of the British Empire. Faber and Faber, London, 399, 1966.
- SHAW, A. G. L.—The Economic Development of Australia. Longmans, Croydon, 5th ed. rev., viii + 216, 1966.
- SHAW, A. G. L.—Heroes and Villains in History: Darling and Bourke in New South Wales (Fifth George Arnold Wood Memorial Lecture). Sydney University Press, Sydney, 31, 1966.
- SHAW, A. G. L.—Modern World History: Social, Political and Economic Development, 1780-1955, Cheshire, Melbourne, rev., 604, 1966.
- SHAW, A. G. L. and NICOLSON, H. D.—Growth and Development in Australia: An Introduction to Australian History. Angus & Robertson, Sydney, 262, 1966.
- SHAW, A. G. L.—Section Editor, 1788-1825 — Australian Dictionary of Biography, Volume 1: 1788-1850, Melbourne University Press, Carlton, xx + 578, 1966.
- TURNER, I. A. H.—The retreat from reason. *Meanjin*, no. 2, 133-143, 1966.
- TURNER, I. A. H.—Industrial Labour and Politics. Cambridge University Press, London, xx + 272, 1966.
- TURNER, I. A. H.—Socialist History and the Socialist Historian. *Arena*, no. 11, 11-19, 1966.
- WATERSON, D. B.—Associations and alliances: early farmers' organisations on the Darling Downs. *Queensland Heritage*, I, no. 4, 21-25, May, 1966.

*Department of Modern Languages**French*

- BIRNBERG, J. — À propos des affiliations de Charles Péguy aux fractions socialistes (1895-1900). *Australian Journal of French Studies*, III, no. 2, 129-161, 1966.
- HANKS, L. — Buffon avant l' "Histoire Naturelle". Publications de la faculté des lettres et sciences humaines de Paris; Série "Recherches" XXIV, 324 Paris, P.U.F., 1966.
- KIRSOP, W. — Vers une collaboration de la bibliographie matérielle et de la critique textuelle. *Australian Journal of French Studies*, III, no. 3, 227-251, 1966.
- LAMERAND, R. — The language laboratory and the study of literature. *Babel*, new series, II, no. 1, 22-25, April, 1966.
- LAUFER, R. — Pour une description scientifique du livre en tant qu'objet matériel. *Australian Journal of French Studies*, III, no. 3, 252-272, 1966.
- DEBERDT-MALAUQUAIS. — Elisabeth, Le Roi de le Bouffon dans l'*Escorial* de Michel de Ghelderode. *Australian Journal of French Studies*, III, no. 2, 196-204, 1966.
- MORCOVESCU, N. — 'Orgueilleux de la Lande', 'Orgueilleuse de Logres', 'Château Orgueilleux' et autres appellations semblables dans les romans de Chrétien de Troyes. *Australian Journal of French Studies*, III, no. 2, 113-128, 1966.
- RIVERS, W. M. — Listening comprehension. *Modern Language Journal*, (U.S.A.), L, no. 4, 196-204, 1966.
- RIVERS, W. M. — Psychology and the language laboratory. *AULLA Proceedings and Papers of the Tenth Congress*, 221-230, 1966.

*German*

- CLYNE, M. — German — a changing language. *Babel*, 2 (New Series) 6-9, April, 1966.
- CLYNE, M. — Some instances of limitations on speech capacity as exhibited in German-English bilinguals. *AULLA, Papers and Proceedings of the 10th Congress*, Auckland, 251-259, February, 1966.
- KELLER, E. — Stefan George und sein Kreis. *Proceedings of the Australian Goethe Society*, 43-69, 1963/65 (Published in 1966).
- LIVINGSTONE, R. S. and BODI, L. — Therese Huber: Adventures on a Journey to New Holland. Edited with a Preface and Notes by L. Bodi, translated by R. Livingstone. Lansdowne Press, Melbourne, 128. 1966.

*Indonesian and Malay*

- IDRUS — East-west conflict in Indonesian novels. *Quadrant*, 38-44, November-December, 1966.

*Japanese*

- NEUSTUPNY, J. V. — On the analysis of linguistic vagueness. *Travaux Linguistique de Prague*, 2, 39-51, 1966.
- NEUSTUPNY, J. V. — Nihongo no akusento wa kōtei akusento ka? *Onsei gakkai kaihō*, (The Bulletin of the Phonetic Society of Japan), no. 121, 1-7, February, 1966.
- NEUSTUPNY, J. V. — Gengo ruikeigaku to Nihongo on'in taikai no bunseki. *Onsei no kenkyū* (Study of Sounds), 12, 337-346, 1966.
- NEUSTUPNY, J. V. — "Hanà" to "hana" no hatsuon wa hatashite chigau ka? *Gengo seikatsu*, no. 172, 80-87, January, 1966.
- NEUSTUPNY, J. V. — Japonská filosofie. *Stručný filosofický slovník*, Praha: Svoboda, 130-131, 1966.
- NEUSTUPNY, J. V. — Dialects, a Social Problem in Japan. Deliberations over a Book. *New Orient Bimonthly*, V, no. 1, 6-7, January, 1966.
- NEUSTUPNY, J. V. — Nippon or Nihon? *New Orient Bimonthly*, V, no. 4, 106-7, August, 1966.

*Linguistics*

- HAMMARSTROM, U. G. E. — Linguistische Einheiten im Rahmen der Modernen Sprachwissenschaft, 112, Springer-Verlag, Heidelberg, 1966.
- MUECKE, D. C. and SILVA, G. — A concordance to David Hume's Dialogues Concerning Natural Religion, Monash University, 1966.

*Department of Music*

- JONES, T. A. — The ethnomusicologist's rôle in music education, in Perspectives in Music Education, Source Book III, ed. B. C. Kowall, Washington, D.C., Music Educators National Conference, 407-412, 1966.
- JONES, T. A. — An ethnomusicological approach to university music, in Report of the Australian Unesco Seminar on School Music, Sydney, 20-29 May, 1965, Sydney, Australian National Advisory Committee for Unesco, 242-261, 1966.

*Department of Philosophy*

- MCGECHIE, J. E. — Critical notice of B. Ellis. *Basic Concepts of Measurement*. *Australasian Journal of Philosophy*, XLIV, no. 3, 353-370, December, 1966.
- MONRO, D. H. — Democracy and education. In Eddy, W. H. C., ed., *Studies in Democracy*, Cheshire, Melbourne, 104-143, 1966.
- MONRO, D. H. — Critical notice of *Hobbes studies*, ed. K. C. Brown. *Australasian Journal of Philosophy*, XLIV, no. 2, 240-248, 1966.
- RANKIN, K. W. — Existence and time. *Philosophy and Phenomenological Research*. XXVII, no. 2, 199-215, December, 1966.

## FACULTY OF ECONOMICS AND POLITICS

*Department of Economics*

- BENNETT, J. W. and PEIRSON, C. G. — Valuation of corporate shareholdings. *The Australian Accountant*, XXXVI, no. 2, 99-103, 1966.
- BRUNT, M. and KARMEL, P. H. — The Structure of the Australian Economy. Cheshire, Melbourne, 156 pages, Second Revised Printing, 1966.
- BRUNT, M. — Statement on United States investment in the Australian economy, in *Hearings on International Aspects of Antitrust* before the Subcommittee on Antitrust and Monopoly of the Committee on the Judiciary, U.S. Senate, 89th Congress, 2nd Session, Part I, 259-273, 537-548.
- CAMPBELL, D. V. A. and SOUTHWELL, T. B. — Data processing in the Monash University Library. *Australian Library Journal*, XV, no. 5, 176-180, October, 1966.
- CLUNIES ROSS, A. I. and KING, P. — Australia and Nuclear Weapons: The Case for a Non-Nuclear Region in South East Asia, Sydney, Sydney University Press, 111 pages, 1966.
- CLUNIES ROSS, A. I. — Asian migration — an Australian failure?, in *Population Problems of Asia and Australia*, ed. S. Chandrasekhar, London, Geo. Allen & Unwin, 1966.
- CLUNIES ROSS, A. I. — The attempt at economic management under Macapagal. *Australia's Neighbours*, 4th series, nos. 38-39, 3-8, September-October, 1966.
- CLUNIES ROSS, A. I. — Military alliances and nuclear hostages, in *Aspects of Australia's Defence*, ed. M. Teichmann, Melbourne, Political Studies Association, Monash University, 1966.
- GRUEN, F. H. — Aborigines and the Northern Territory cattle industry — an economist's view, in *Aborigines in the Economy*, eds. Ian G. Sharp and Colin M. Tatz, ch. XV, Jacaranda Press, 1966.
- GRUEN, F. H. and POWELL, A. A. L. — Problems in Aggregate Agricultural Supply Analysis: I — The Construction of Time Series for Analysis; II — Preliminary Results for Wool and Cereals. *Review of Marketing and Agricultural Economics*, XXXIV, nos. 3 and 4, 1966.
- ISAAC, J. E. and FORD, G. W. (ed.) — Australian Labour Relations; Readings, Sun Books, Melbourne, 520, 1966.
- ISAAC, J. E. — The standard of living. *Economic Record*, XLII, no. 97, 67-69, March, 1966.
- ISAAC, J. E. — Costs, prices and wages. *Economic Record*, XLII, no. 97, 70-78, March, 1966.
- PEIRSON, C. G. — Three kinds of adjustments for price changes. *The Accounting Review*, XLI, no. 4, 729-736, 1966.
- POWELL, A. A. L. — A complete system of consumer demand equations for the Australian economy fitted by a model of additive preferences. *Econometrica*, XXXIV, no. 3, July, 1966. (This paper was originally commissioned by the Committee of Economic Enquiry, Canberra.)

- PURSELL, G. G.—The Australian Trade Practices Act 1965. *Antitrust Bulletin*, XI, no. 3, 543-570, May-June, 1966.
- SNAPE, R. H.—Alguns Efeitos do Protecionismo na Indústria Açucareira Mundial—*Juridica*—(Brazil, in Portuguese), XXXI, 3-15, Janeiro-Março, 1966.
- WARD, I. D. S.—Review of J. F. Covin's "Living with Asia". *Australian Outlook*, XX, No. 2, 117-118, August, 1966.

*Department of Politics*

- FEITH, H.—Indonesia's political future: some implications of a current academic debate, in The Centre for Southeast Asian Studies, *Japan's Future in Southeast Asia* (Kyoto, 1966) 29-44. (Also in translated form in French in *Analyse et Prevision* (Paris, SEDEIS), II, nos. 1-2, 561-572, July-August, 1966.)
- GOLDSWORTHY, D. J.—The debate on a parliamentary committee for colonial affairs. *Parliamentary Affairs*, XIX, no. 2, 91-207, 1966.
- GOLDSWORTHY, D. J. and PLAYFORD, J. D.—The L.C.L. and the 'Powers' referendum issue, 1942-4. *Australian Journal of Politics and History*, XII, no. 3, 400-416, 1966.
- GRATTAN, M.—The Kooyong by-election, supplement to *Politics*, no. 2, 1966.
- MEDDING, P. Y.—A.L.P. Structure and Democracy in H. Mayer (ed.), *Australian Politics: A Reader*, Melbourne, Cheshire, 261-63, 1966.
- TATZ, C. M. and SHARP, I. G. (eds.)—*Aborigines in the Economy*. Jacaranda Press in association with Centre for Research into Aboriginal Affairs, Monash University, Melbourne, 384, December, 1966.
- TATZ, C. M.—Aborigines: equality or inequality? *The Australian Quarterly*, XXXVIII, no. 1, 73-90, March, 1966.
- TATZ, C. M.—Aboriginal Sociology and Administration. *Occasional Papers in Aboriginal Studies Number 8*, Australian Institute of Aboriginal Studies, Canberra, 1966.
- TATZ, C. M.—*Aboriginal Policies of the Aborigines Welfare Board, Victoria*, published in booklet form, 27 pages, December, 1966.
- TATZ, C. M.—Centre for research into aboriginal affairs. *Monash University Gazette*, III, no. 1, 7-8, September, 1966.
- TATZ, C. M.—Report of the Lake Tyers Planning and Action Committee on Rehabilitation and Training for Aborigines at Lake Tyers Reserve, 112, Melbourne, December, 1966.
- TEICHMANN, M.—Aspects of Australia's Defence. Editor. Publications Committee, Monash University, 88, 1966.
- TEICHMANN, M.—Australia—armed and neutral? *Victorian Fabian Society Pamphlet*, no. 13, 1966.



## FACULTY OF EDUCATION

*Non-Scientific*

- ALLEN, D. I. and STANES, L. W. — Interim report on consumer education. *Victorian Commercial Teachers' Association*, Melbourne, 1966.
- BALSON, M. — Measuring teacher effectiveness. *The Teachers' Journal*, XLIX, no. 8, 388-390, 1966.
- BALSON, M. — Programmed Instruction — Foundations and Applications. *Report of the Inaugural Conference*, The Australian Association of Mathematics Teachers, 40-42, 1966.
- DUNN, S. S. — 'Measuring Pupil Progress'. Teaching in the Primary School, G. W. Bassett (ed.), Sydney, Ian Novak Publishing Co., 400, 1966.
- DUNN, S. S. — Problems of Assessment in a System Catering for Individual Talent. Each to his Full Stature. The Australian College of Education, Cheshire, Melbourne, 43-59, 1966.
- GREGORY, A. — Book Guide for the the Economic Teacher. A Select Bibliography. Victorian Commercial Teachers' Association, Melbourne, 94, 1966.
- MCCULLOCH, R. W. — The grouping of Pupils as a changing aspect of school administration. *Third Conference on School Administration*, University of Queensland, Brisbane, 53-65, 1966.
- MCCULLOCH, R. W. — The organization of schools for individual talents. Each to his Full Stature, Australian College of Education, Cheshire, Melbourne, 16-42, 1966.
- MOREY, E. A. — Meeting the needs of girls in boarding school. *Proceedings of the Conference of the Housemistress's Association*, February, 1966.
- MOREY, E. A. — Adolescents in conflict. *Journal of Societal Issues*, July, 1966.
- MOREY, E. A. — Early experience and learning. *Proceedings of the Conference of Infant Welfare Sisters*, August, 1966.
- MOREY, E. A. — A psychologist looks at special education. *Proceedings of the Biennial Conference of the Association of Teachers of the Mentally Retarded*, August, 1966.
- MOREY, E. A. — Independence in the child with cerebral palsy. *Proceedings of the Conference of the Spastic Children's Society of Victoria*, August, 1966.
- MOREY, E. A. — Learning at its best. *Proceedings of the Annual Conference of Infant Teachers*, Victorian Education Department, September, 1966.
- MOREY, E. A. — Social pressures on children in a modern world. Distributed by Tasmanian Council of Social Service and Free Kindergarten Union of Tasmania, Hobart, October, 1966.
- MOREY, E. A. — Meeting the needs of growing children. Health Department, Victoria (Maternal, Infant and Pre-School Division), November, 1966.

- MOREY, E. A. — Psychological factors in backwardness. *Remedial Teachers' Association*, November, 1966.
- SCHOENHEIMER, H. P. — Summary of precis. *English in Australia*, no. 2, 19-23, 1966.
- SCHOENHEIMER, H. P. — Pupils are people. *Opinion*, no. 2, 41-51, 1966.
- SELBY SMITH, R. — A Victorian Independent School. Reflections on the development of Scotch College 1953-1964. *Melbourne Studies in Education* (ed. E. L. French), 225-250, Melbourne University Press, 1965. (Published 1966.)
- THEOBALD, J. H. — The Monash Faculty of Education. *Monash University Gazette*, III, no. 1, 11-14, 1966.

## FACULTY OF ENGINEERING

### *Department of Applied Mechanics*

- BROWN, R. H., with RUSSELL, J. K. — The measurement of chip flow direction. *Inst. of Machine Tool Des. and Research*, 6, 129-138, September, 1966.
- CRISP, J. D. C. — Vibration as a dynamic phenomenon. *Bull. Mech. Eng. Education*, 5, no. 3, 1966.
- CRISP, J. D. C. — Teaching basic notions of elasticity, stiffness and buckling. *Jnl. I.E. Aust.*, 38, no. 12, 289, December, 1966.
- HART-SMITH, L. J. — Elasticity parameters for finite deformations of rubber-like materials. *Zamp*, 17, fasc. 5, 608-626, 1966.

### *Department of Chemical Engineering*

- AGNEW, J. B. and POTTER, O. E. — The design of stable packed tubular reactors for highly exothermic reactions. *Trans. Inst'n Chem. Engrs*, 44, T216, 1966.
- BOGER, D. V. and WESTWATER, J. W. — Effect of buoyancy on the melting and freezing process. *Transactions of the ASME — Journal of Heat Transfer*, paper no. 66-WA/HT-31, 1966.
- HOLDER, G. A. — Effect of polymers on the crystal growth of n-paraffins. *American Chemical Society*, Winter Meeting, Phoenix, Arizona. Division of Polymer Chemistry, General Papers Section B, no. 3, January, 1966.
- LAWSON, F. and WHITE, N. — Electrodeposition of metals from non-aqueous solutions. *Electrochemistry Division Symposium, 3rd National Convention of the RACI*, Canberra, 1966.
- MCNAUGHTON, K. J. and SINCLAIR, C. G. — Submerged jets in short cylindrical flow vessels. *J. Fluid Mechanics*, 25, 367-375, 1966.

- OLBRICH, W. E., AGNEW, J. B., and POTTER, O. E. — Dispersion in packed beds and the cell model. *Trans. Inst'n Chem. Engrs.*, **44**, T207, 1966.
- POTTER, O. E. — Chemical engineering — today and tomorrow. *Factory and Plant*, 25-31, March, 1966.

#### *Department of Civil Engineering*

- DICKSON, H. McC. — Model analysis applied to stress problems, the Institution of Engineers, Australia. Symposium on Experimental Stress Analysis, Melbourne, August, 1966.
- MCPHERSON, R. — Internal stresses in ceramics. Paper presented to Second Australian Ceramics Conference, Melbourne, 1966.
- MURRAY, N. W. — Overseas opportunities — Victoria — prospects in one of Australia's boom states. *Consulting Engineer*, **30**, no. 7, 44-54, July, 1966.
- ROZVANY, G. I. N. — Analysis versus synthesis in structural engineering. The Institution of Engineers, Australia, *Proc. Engineering Conference*, Newcastle, paper no. 2050, 26-32, March, 1966.
- ROZVANY, G. I. N. — A rational approach to plate design, part 1, *Proc. American Concrete Institute*, 1077-1094, October, 1966.
- ROZVANY, G. I. N. — The minimum volume of uncurtailed orthogonal reinforcement in simply supported singly reinforced plates. *Concrete and Constructional Review* (London), **61**, no. 8, 281-286, August, 1966.
- THOMSON, P. F. and HOGGART, J. S. — The effect of pressure lubrication on the mechanical properties of drawn copper wire. *Int. Inst. Metals*, **94**, no. 11, 400, 1966.

#### *Department of Electrical Engineering*

- ANNAL, P. R. — The development of a data recording and processing computer system with application to neurophysiological research. *Sixth Annual Meeting of Physics in Medicine and Biology*, Australian Institute of Physics, Melbourne, August, 1966.
- GRUNER, L. — Lumped-parameter analogues of nonuniform RC distributed networks and lossless transmission lines. *Electronics Letters*, **2**, 58-60, February, 1966.
- LAMPARD, D. G. and REDMAN, S. J. — Stochastic stimulation as a technique in pharmacology. *Proceedings of Aust. Physiological Society*, University of Queensland, August, 1966.
- LEVAN, N. — Generating orthogonal signals from the null space of the adjoint operators of a class of linear networks. *Electronics Letters*, **2**, 399-400, November, 1966.

- MORTON, R. R. A. — A simple DC to 10 Mc/s analogue multiplier. *Journal of Scientific Instruments*, 43, 165-168, March, 1966.
- PANG, K. K. — A new transformation for microwave network synthesis. *IEEE Transactions on Circuit Theory*, CT-13, no. 2, 235-238, June, 1966.
- REDMAN, S. J. and LAMPARD, D. G. — Stochastic excitation of mammalian spinal motoneurons. *Proceedings of Australian Physiological Society*, University of Melbourne, February, 1966.
- REDMAN, S. J. and LAMPARD, D. G. — Frequency division in spinal motoneurons. *Proceedings of the Aust. Physiological Society*, University of Queensland, August, 1966.

*Department of Mechanical Engineering*

- BARDEN, R. G. — Living with sound. *Aust. Building Science and Technology*, 6, no. 6, 5-12, 1966.
- WILLIAMS, A., with JOHNSTON, W. and MAHTAB, F. U. — Further experiments concerning geometrically similar indentations. *Int. J. Mech. Sci.*, Pergamon Press Ltd., 8, 49-59, 1966.
- WILLIAMS, A. — Heat transfer through metal to metal joints. *Third International Heat Transfer Conference*, Chicago, U.S.A., paper 125, August, 1966.

FACULTY OF LAW

- DERHAM, D. P., with MAHER, F. K. H. and WALLER, P. L. — Cases and Materials on the Legal Process. The Law Book Company Ltd., Sydney, 1966, I-XLII, 1-457.
- DERHAM, D. P., with MAHER, F. K. H. and WALLER, P. L. — An Introduction to Law, The Law Book Company Ltd., Sydney, 1966, I-VIII, 1-195, appendix: 197-217, index: 219-226.
- DERHAM, D. P. — Legal education. *New Zealand Universities Law Review*, vol. II, no. 2, 130-144, 1966.
- DERHAM, D. P. — Legal education and training for practice. *Law Institute Journal*, vol. XL., no. 12, 487-491, 1966.
- DERHAM, D. P. — Beginning a Law School at Monash. *Monash University Gazette*, vol. III, no. 1, 1-3, September, 1966.
- DWORKIN, G. (Member of Committee) — Trial of motor accident cases — a report by *Justice*, Stevens, 1966.
- HARARI, A. — Compensation for traffic victims: the position in certain countries, some 'compensation plans, and a criticism', in *Report of the Interdepartmental Committee on Compensation for Victims of Traffic and Work Accidents*, Jerusalem 1966, appendix A, 37-50 (in Hebrew).

- HOCKER, P. J., with MCGARVIE, R. E. and PANNAM, C. L. — Cases and Materials on Contract, The Law Book Company Ltd., Sydney, 1966, I-XXXII, 1-1066, appendix 1067-1085, index 1087-1103.
- HOGG, P. W. — The News Media Ownership Act 1965. *New Zealand Universities Law Review*, vol. II, no. 1, 87-89, 1966.
- HOGG, P. W. — An Ombudsman for Victoria. *The Victorian Liberal Leader*, no. 7, October, 4 and 11, 1966.
- JACKSON, D. C. — Monogamous Polygamy. *Australian Law Journal*, vol. XL, no. 5, 148-156, 1966.
- WALLER, P. L. — *Rescue and the Common Law: England and Australia; in The Good Samaritan and the Law.* (James M. Ratcliffe, Ed.) Doubleday & Company Inc., New York, 1966, 141-157.

## FACULTY OF MEDICINE

*Dean's Department**Non-Scientific*

- ANDREW, R. R. — Hospital functions and design. *Alfred Hosp. Clin. Rep.*, 13, 25-32, 1966.
- ANDREW, R. R. — Education in the clinical years. *Med. J. Aust.*, 2, 980-982, 1966.
- ANDREW, R. R. — Modes of co-operation within a medical school. *Proc. of the Conference on Med. Educ., University of Malaya*, 64-67, Andre Publications, Singapore, 1966.

*Department of Anatomy**Scientific*

- ALEXANDER, R. M. — Enterochromaffin cells in developing mice. *J. Anat. Lond.*, 100, part 4, 949, 1966.
- BACHELARD, H. S. and SILVA, G. D. — The Na<sup>+</sup>, K<sup>+</sup>-activated adenosine triphosphatase in degenerating peripheral nerve. *Arch. Biochem. Biophys.*, 117, no. 1, 98-105, 1966.
- BOWDEN, D. K. — The development of the digital synovial sheaths of the hand. *J. Anat. Lond.*, 100, part 4, 947, 1966.
- HART, J. A. L. and SILVA, D. G. — Distribution of lipids in articular cartilage. *J. Anat. Lond.*, 100, part 4, 937, 1966.

- HO, A. K. S. — Counts of enterochromaffin cells in chicks. *J. Anat. Lond.*, **100**, part 4, 948, 1966.
- HO, A. K. S., SOUTHWELL, J. M., and SCHOFIELD, G. C. — Histochemical and pharmacological studies on the 5-HT content of the colon in mice. *J. Anat. Lond.*, **100**, part 4, 944, 1966.
- HO, A. K. S., FREEMAN, S. E., FREEMAN, W. P., and LLOYD, H. J. — Action of tricyclic anti-depressant drugs on central processes involving acetylcholine. *Biochem. Pharmacol.*, **15**, 817,824, 1966.
- MANDEL, T. — Atypical lymphocytes following open-heart surgery. *Sixth International Congress for Electron Microscopy, Kyoto, 1966*, **2**, 723-724, 1966.
- MANDEL, T. — Ultrastructural studies on differentiating lymphoid cells following open-heart surgery. *J. Anat. Lond.*, **100**, part 4, 938, 1966.
- MCNEUR, J. C. and HART, J. A. L. — Experimental studies in bone grafting. *J. Anat. Lond.*, **100**, part 4, 939, 1966.
- SILVA, D. G. — Crystal-containing cells in the intestinal epithelium of the mouse. *Sixth International Congress for Electron Microscopy, Kyoto, 1966*, **2**, 589-590, 1966.
- SILVA, D. G. — Quantitative ultrastructural studies on the nerve fibres in the mucous membrane of the colon. *J. Anat. Lond.*, **100**, part 4, 939, 1966.
- SILVA, D. G. — The fine structure of multivesicular cells with large microvilli in the epithelium of the mouse colon. *J. Ultrastruct. Res.*, **16**, 693-705, 1966.
- SILVA, D. G. — Ultrastructural observations on a multivesicular cell in the epithelium of the intestine. *J. Anat. Lond.*, **100**, part 4, 935, 1966.
- SILVA, D. G. — Ultrastructural observations on crystal-containing cells in the epithelium of the large intestine of the mouse. *J. Anat. Lond.*, **100**, part 4, 938, 1966.
- SILVA, D. G. — Ultrastructural observations on the myometrium in the rat. *J. Anat. Lond.*, **100**, part 4, 941, 1966.
- SILVA, D. G. and SCHOFIELD, G. C. — The ultrastructure of argentaffin cells in the distal part of the mouse colon. *J. Anat. Lond.*, **100**, part 4, 949, 1966.
- SMITH, G. C. — Studies on the fluorescent properties of neurons. *J. Anat. Lond.*, **100**, part 4, 940, 1966.

#### *Department of Biochemistry*

##### *Scientific*

- ARMSTRONG, J. McD., MYERS, D. V., VERPOORTE, J. A., and EDSALL, J. T. — Purification and properties of human erythrocyte carbonic anhydrases. *J. Biol. Chem.*, **241**, 5137-5149, 1966.
- AUSTIN, L., BRAY, J. J., and YOUNG, R. J. — Transport of proteins and ribonucleic acid along nerve axons. *J. Neurochem.*, **13**, 1267, 1966.

- BACHELARD, H. S. — Amino acid incorporation into the protein of mitochondrial preparations from cerebral cortex and spinal cord. *Biochem. J.*, **100**, 131, 1966.
- BACHELARD, H. S. and LINDSAY, J. R. — Effects of neurotropic drugs on glucose metabolism in rat brain *In Vivo*. *Biochem. Pharmacol.*, **15**, 1053-1058, 1966.
- BEYCHOK, S., ARMSTRONG, J. MCD., LINDBLOW, C., and EDSALL, J. T. — Optical rotatory dispersion and circular dichroism of human carbonic anhydrases B and C. *J. Biol. Chem.*, **241**, 5150-5160, 1966.
- CLARK-WALKER, G. D. and LINNANE, A. W. — *In Vivo* differentiation of yeast cytoplasmic and mitochondrial protein synthesis with antibiotics. *Biochem. Biophys. Res. Commun.*, **25**, 8, 1966.
- EDSALL, J. T., MEHTA, A., MYERS, D. V., and ARMSTRONG, J. MCD. — Structure and denaturation of human carbonic anhydrases in urea and guanidine hydrochloride solutions. *Biochem. Z.*, **345**, 9-36, 1966.
- GOH, A. T. W. and LOWTHER, D. A. — The effect of age on the composition of bovine nasal cartilage. *Nature*, **210**, 1270, 1966.
- GOULD, M. K. and RAWLINSON, W. A. — Effect of electrical stimulation and training on muscle pentose transport. *Amer. J. Physiol.*, **211**, 141, 1966.
- GOULD, M. K. and RAWLINSON, W. A. — Effect of natural exercise on pentose transport in rat skeletal muscle. *Amer. J. Physiol.*, **211**, 147, 1966.
- HUANG, M., BIGGS, D. R., CLARK-WALKER, G. D., and LINNANE, A. W. — Chloramphenicol inhibition of the formation of particulate mitochondrial enzymes of *Saccharomyces cerevisiae*. *Biochim. Biophys. Acta*, **114**, 434, 1966.
- LOWTHER, D. A. and BAXTER, E. — The isolation of a chondroitin sulphate-protein complex from bovine intervertebral discs. *Nature*, **211**, 595, 1966.
- LUKINS, H. B., THAM, S. H., WALLACE, P. G., and LINNANE, A. W. — Correlation of membrane bound succinate dehydrogenase with the occurrence of mitochondrial profiles in *Saccharomyces cerevisiae*. *Biochem. Biophys. Res. Commun.*, **23**, 363, 1966.
- MAURITZEN, C. M. and STEWART, P. R. — The disulphide and sulphydryl content of fractions prepared by the ultra-centrifugation of doughs made from wheat flour. *Aust. J. Biol. Sci.*, **19**, 1111, 1966.
- OGSTON, A. G. and PRESTON, B. N. — The exclusion of protein by hyaluronic acid. *J. Biol. Chem.*, **241**, 17, 1966.
- RUDNEY, H., STEWART, P. R., MAJERUS, P. W., and VAGELOS, P. R. — The biosynthesis of  $\beta$ -hydroxy- $\beta$ -methylglutaryl coenzyme A in yeast. V: the role of acyl carrier protein. *J. Biol. Chem.*, **241**, 1226, 1966.
- STEWART, P. R. and QUAYLE, J. R. — The synergistic decarboxylation of glyoxylate and 2-oxoglutarate by an enzyme from mammalian liver. *Biochem. J.*, **98**, 43, 1966.
- STEWART, P. R. and RUDNEY, H. — The biosynthesis of  $\beta$ -hydroxy- $\beta$ -methylglutaryl coenzyme A in yeast. III: purification and properties of the condensing enzyme-thiolase system. *J. Biol. Chem.*, **241**, 1212, 1966.
- STEWART, P. R. and RUDNEY, H. — The biosynthesis of  $\beta$ -hydroxy- $\beta$ -methylglutaryl coenzyme A in yeast. IV: the origin of the thioester bond of  $\beta$ -hydroxy- $\beta$ -methylglutaryl coenzyme A. *J. Biol. Chem.*, **241**, 1222, 1966.

- STEWART, P. R. and MAURITZEN, C. M.—The incorporation of (<sup>35</sup>S)-cysteine into the proteins of dough by disulphide-sulphydryl interchange. *Aust. J. Biol. Sci.*, **19**, 1125, 1966.
- TOOLE, B. P. and LOWTHER, D. A.—Organisation of the hexosamine-containing compounds of bovine skin. *Biochem. Biophys. Acta*, **121**, 315, 1966.
- WHEELDON, L. W.—The problem of bacterial contamination in studies of protein synthesis by isolated mitochondria. *Biochem. Biophys. Res. Commun.*, **24**, 407, 1966.
- WHEELDON, L. W. and LEHNINGER, A. L.—Energy-linked synthesis and decay of membrane protein in isolated rat liver mitochondria. *Biochemistry*, **5**, 3533, 1966.

*Department of Medicine*

- BURGER, H. G., EDELHOCH, H., and CONDLIFFE, P. G.—Fluorescence in the characterisation of bovine growth hormone. *Endocrinology*, **78**, 198, 1966.
- BURGER, H. G., EDELHOCH, H., and CONDLIFFE, P. G.—The properties of bovine growth hormone. I: behaviour in acid solution. *J. Biol. Chem.*, **241**, no. 2, 449, 1966.
- BURGER, H. G. and EDELHOCH, H.—The properties of bovine growth hormone. II: effects of urea. *J. Biol. Chem.*, **241**, no. 2, 458, 1966.
- BURGER, H. G., CASEY, J. H., KENT, J. R., KELLIE, A. E., MOXHAM, A., NABARRO, J. and NABARRO, J. D. N.—Treatment of hirsutism by adrenal and ovarian suppression. *Journal of Clinical Endocrinology & Metabolism*, **26**, no. 12, 1370, 1966.
- CATT, K. J. and MOFFAT, B.—A convenient apparatus for analytical disc electrophoresis. *Aust. J. Exp. Biol. Med. Sci.*, **44**, 597, 1966.
- CATT, K. J., NIALI, H. D., and TREGEAR, G. W.—Solid phase radio-immunoassay of human growth hormone. *Biochem. J.*, **100**, 1966.
- GURR, F. W., FREAKE, R., and NAYMAN, J.—Review of incidence of septicaemia as a complication in 85 cases of acute and chronic renal failure. *Med. J. Aust.*, **2**, 507, 1966.
- HANSKY, J.—Oesophageal motility studies. *Australasian Annals of Medicine*, **15**, 129, 1966.
- HANSKY, J., CORLETT, R. J., and SALLI, A.—Pancreatitis: A retrospective study. *Med. J. Aust.*, **2**, 54, 1966.
- HANSKY, J.—Value of oesophageal motility studies in disorders of the oesophagus. *Abstract. Gut.*, **2**, 303, 1966.
- HUDSON, B. and BREIDAHN, H.—Thyroid function in patients with exophthalmos preceding thyrotoxicosis. *Australasian Annals of Medicine*, **15**, 311, 1966.
- HUDSON, B., DULMANIS, A., COGLAN, J. P., and WINTOUR, M.—The measurement of androgen production in normal subjects. *Australasian Annals of Medicine*, **15**, no. 3, 1966.



- STOCKIGT, J. and TAFT, P. — The simulation of diabetic acidosis by severe gram-negative bacterial infection occurring in the diabetic. *M.J. Aust.*, **1**, 210, 1966.
- TAFT, P. and EKKEL, I. — The estimation by bioassay of total gonadotrophin levels in the plasma of normal adults. *Aust. J. Exp. Biol. Med. Sci.*, **44**, 439, 1966.

*Department of Microbiology*

*Scientific*

- BAYLY, R. C., DAGLEY, S., and GIBSON, D. T. — The metabolism of cresol by species of pseudomonas. *Biochem. J.*, **101**, 293, 1966.
- BREMNER, D. A. and SHAW, E. J. — *Mycoplasma Pneumoniae* in lower respiratory tract infections. *Med. J. Aust.*, **2**, 261, 1966.
- CROSS, G. F. and MARMION, B. P. — Cell culture and infectious hepatitis. *Med. J. Aust.*, **2**, 1214, 1966.
- FERRIS, A. A. and COLE, R. A. — Detroit 6 cells and infective hepatitis. *Med. J. Aust.*, **2**, 1213, 1966.
- FORBES, J. A. — Infectious diseases today and tomorrow. *Med. J. Aust.*, **1**, 25, 1966.
- FORBES, J. A., BENNETT, N. McK., KUCERS, A., and LUCAS, C. R. — A clinical trial of rifamide. *Med. J. Aust.*, **1**, 1, 1966.
- MARMION, B. P. — The mycoplasmas: new information on their properties and their pathogenicity for man, in *Recent Advances in Medical Microbiology*, ed. Waterson, A. P., Churchill, London, 170-250, 1966.
- SMITH, J. A., WILLIS, A. T., and O'CONNOR, J. J. — Epidemic strains of *Staphylococcus aureus* in the Alfred Hospital. *Alfred Hospital Clinical Reports*, **13**, 49, 1966.
- SMITH, J. A., O'CONNOR, J. J., and WILLIS, A. T. — Nasal carriage of *Staphylococcus aureus* in diabetes mellitus. *Lancet*, **II**, 776, 1966.
- WILLIS, A. T., O'CONNOR, J. J., and SMITH, J. A. — Some observations on staphylococcal pigmentation. *Nature*, **210**, 653, 1966.
- WILLIS, A. T., O'CONNOR, J. J., and SMITH, J. A. — Colonial pigmentation of *Staphylococcus aureus*. *J. Path. Bact.*, **92**, 97, 1966.

*Department of Obstetrics and Gynaecology*

*Scientific*

- BLANKFIELD, A. — The value of exercises in obstetrics. *Aust. J. Physiother.*, **XII**, 2, 51-54, 1966.
- LEETON, J. F. — Breech delivery. *Aust. Med. J.*, **17**, 728, 1966.

- WALTERS, W. A. W., MACGREGOR, W. G., and HILLS, M. — Cardiac output at rest during pregnancy and the puerperium. *Clin. Sci.*, **30**, 1-11, 1966.
- WOOD, C. and SHARP, A. H. — The effect of duphaston (dydrogesterone) upon uterine contractility and pressure-volume relationships in the non-pregnant human uterus. *Aust. N.Z. J. Obstet. Gynaec.*, **6**, 321, 1966.
- WOOD, C. and PINKERTON, J. H. M. — Uterine activity following the birth of the first twin. *Aust. N.Z. J. Obstet. Gynaec.*, **6**, 95, 1966.

#### *Department of Paediatrics*

##### *Scientific*

- CLARK, A. C. L. — Neonatal thrombocytopenia. *Med. J. Aust.*, **II**, 151, 1966.
- CLARK, A. C. L. — Children in the Monash University Medical Centre. *Med. J. Aust.*, **II**, 721, 1966.
- BAIKIE, A. G., CLARK, A. C. L., COLEBATCH, J. H., JONES, D. L., LEE, C. W. G., LEWIS, I. C., and NEWMAN, N. M. (Australian Cancer Society's Childhood Leukaemia Study Group Writing Committee) — Cyclical drug regime for acute childhood Leukaemia. *Proc. 11th Congress of the International Society of Haematology*, 128, 1966.
- FINDLAY, I. I. and FOWLER, R. S. — The changing pattern of rheumatic fever. *Canad. Med. Assoc. J.*, **94**, 1027, 1966.
- FINDLAY, I. I. — Aortic stenosis — a clinical review of 135 cases. *Aust. Paediat. J.*, **2**, 146, 1966.
- FINDLAY, I. I. — Tubes and terrors, or tablets and tranquillity. *Med. J. Aust.*, **II**, 721, 1966.
- TOWNLEY, R. R. W., KHAW, K. T., and SHWACHMAN, H. — Quantitative assay of disaccharidase activities of small intestinal mucosal biopsy specimens in infancy and childhood. *Pediatrics*, **36**, 911, 1966.
- TOWNLEY, R. R. W. — Disaccharidase deficiency in infancy and childhood. *Pediatrics*, **38**, 127, 1966.
- TOWNLEY, R. R. W. — Acute cerebellar ataxia in childhood. *Med. J. Aust.*, **II**, 678, 1966.

#### *Department of Pathology*

##### *Scientific*

- BIRRELL, R. G. and BIRRELL, J. H. W. — The "maltreatment syndrome" in children. *Med. J. Aust.*, **2**, 1134-1138, 1966.
- DAVIDSON, D. G. D. and EASTHAM, W. N. — Acute liver necrosis following overdose of paracetamol. *Brit. Med. J.*, **2**, 497, 1966.

- DE BOER, W. G. R. M. — Byssinosis. *Med. J. Aust.*, **2**, 1040, 1966.
- IRONSIDE, P. N. J., DE BOER, W. G. R. M., and NAIRN, R. C. — Smooth muscle antibody in lupoid hepatitis. *Lancet*, **2**, 1210, 1966.
- MAXWELL, A., WARD, H. A., and NAIRN, R. C. — Freezing in an isopentane-liquid nitrogen mixture and storage in 2-octanol: technical improvements for immunofluorescence. *Stain Technology*, **41**, 305-309, 1966.
- NAIRN, R. C. — Fluorescent protein tracing. *Encyclopaedia of Chemistry*, 2nd edition, 436-437, Reinhold, New York, 1966.
- NAIRN, R. C. and DE BOER, W. G. R. M. — Species distribution of gastrointestinal antigens. *Nature (Lond.)*, **210**, 960, 1966.
- NAIRN, R. C., GHOSE, T., and TANNENBERG, A. E. G. — Kidney-specific antigen depletion in human renal carcinomas. *Brit. J. Cancer*, December, 1966.
- NAIRN, R. C., MCGIVEN, A. R., IRONSIDE, P. N. J., and NORINS, L. C. — Plasma proteins in the glomerular lesions of NZB/NZW mice. *Brit. J. Exp. Path.*, **47**, 99, 1966.

#### *Department of Physiology*

##### *Scientific*

- BENTLEY, G. A. — The effect of local anaesthetic and adrenolytic drugs on the response of sympathetically-innervated smooth muscle preparations to electrical stimulation at different frequencies. *Brit. J. Pharmacol. & Chemother.*, **28**, 64-80, 1966.
- BROWN, G. L., DEARNALEY, D. J., and GEFFEN, L. B. — Noradrenaline content of the decentralised spleen. *J. Physiol.*, **187**, 32-34, 1966.
- CHAPMAN, J. B. — Potassium contractures in ureteric smooth muscle. *Proc. Aust. Physiol. Soc.*, **8**, 44, 1966.
- CREED, K. — Secretory potentials from cat submaxillary gland. *Proc. Aust. Physiol. Soc.*, **9**, 16, 1966.
- DEARNALEY, D. P., FILLENZ, M., and GEFFEN, L. B. — Combined histochemical and biochemical observations on the effect of nerve stimulation on the noradrenaline content and distribution in the cat spleen. *J. Physiol.*, **186**, 20, 1966.
- DEARNALEY, D. P. and GEFFEN, L. B. — Effect of nerve stimulation on the noradrenaline content of the spleen. *Proc. Roy. Soc. (Lond.) B.*, **166**, 303-315, 1966.
- DEARNALEY, D. P. and GEFFEN, L. B. — The effect of phenoxybenzamine on the depletion of sympathetic transmitter by nerve stimulation. *J. Physiol.*, **184**, 75-77, 1966.
- GIBBS, C. L. and RICCHUTI, N. V. — The heat and work output of rabbit papillary muscle. *Proc. Aust. Physiol. Soc.*, **9**, 26, 1966.

- GIBBS, C. L. and RICCHIUTI, N. V. and MOMMAERTS, W. F. H. M. — Activation heat in frog sartorius muscle. *J. Gen. Physiol.*, **49**, 517-535, 1966.
- GIBSON, W. R. and NALBANDOV, A. V. — Lipid mobilisation in obese hypophysectomized cockerels. *Am. J. Physiol.*, **211**, 1345-1351, 1966.
- GIBSON, W. R. and NALBANDOV, A. V. — Lipolysis and lipogenesis in liver and adipose tissue of hypophysectomized cockerels, *Am. J. Physiol.*, **211**, 1352-1356, 1966.
- GREGORY, J. E. and BENTLEY, G. A. — The peristaltic reflex in the isolated guinea-pig ileum during drug-induced spasm of the longitudinal muscle. *Proc. Aust. Physiol. Soc.*, **9**, 19, 1966.
- HASHIMOTO, Y. and HOLMAN, M. E. — Intracellular stimulation of smooth muscle cells of guinea-pig and mouse vas deferens. *Proc. Aust. Physiol. Soc.*, **8**, 43, 1966.
- HASHIMOTO, Y. and HOLMAN, M. E. — Effects of low Na and Mn on the smooth muscle on mouse vas deferens. *Proc. Aust. Physiol. Soc.*, **9**, 21, 1966.
- HASHIMOTO, Y., HOLMAN, M. E., and TILLE, J. — Electrical properties of the smooth muscle membrane of the guinea-pig vas deferens, *J. Physiol.*, **186**, 27-41, 1966.
- JACK, J. J. B. and PORTER, R. — Rapidly and slowly rising components of monosynaptic excitatory post-synaptic potentials in spinal motoneurons. *J. Physiol.*, **186**, 106-107, 1966.
- JOHNSTONE, B. M., JOHNSTONE, J. R., and PUGSLEY, I. D. — Physiological significance of endocochlear electric current flow. *Proc. Aust. Physiol. Soc.*, **8**, 29, 1966.
- JOHNSTONE, J. R. and JOHNSTONE, B. M. — Electrophysiology of the lizard cochlea. *Proc. Aust. Physiol. Soc.*, **8**, 29, 1966.
- KNIGHTS, ANN. — The activity of single fibres in arthropods. II. The Australian yabbie. *J. Exp. Biol.*, **45**, 421-432, 1966.
- KOZAK, W. and WESTERMAN, R. A. — Problems of plasticity of spinal reflexes in cats. In: Nervous mechanism of motor functions (ed. Asratyan, E. A.). Third international symposium on central and peripheral mechanisms of motor activity of animals and man, 1964, Dilijan, 64-74, 1966, Moscow: Nauka (in Russian).
- MCCANCE, I., PHILLIS, J. W., and WESTERMAN, R. A. — Responses of thalamic neurones to iontophoretically applied drugs. *Nature (Lond.)*, **209**, 715-716, 1966.
- MCCANCE, I., PHILLIS, J. W., and WESTERMAN, R. A. — Cerebellar projections to the thalamus in the cat. *Proc. Aust. Physiol. Soc.*, **8**, 38, 1966.
- MCCANCE, I., PHILLIS, J. W., and WRIGHT, B. — The seriatim removal of foetal kittens. *J. Reprod. Fertil.*, **12**, 229-232, 1966.
- MCDONALD, I. R. and WEISS, M. — Adrenocortical secretion in marsupials. *Proc. Aust. Physiol. Soc.*, **8**, 40, 1966.
- MCINTYRE, A. K. — The wonder of the human brain. *Hemisphere*, **10**, 2-6, 1966.
- MCINTYRE, A. K., HOLMAN, M. E., and VEALE, J. L. — Some central effects of single afferent impulses. *Proc. Aust. Physiol. Soc.*, **9**, 22, 1966.

- MCLEAN, A. J. — The innervation and pharmacology of smooth muscle in the adventitia of the superior mesenteric vein of the sheep. *Proc. Aust. Physiol. Soc.*, **8**, 25, 1966.
- MARK, R. F. — The tectal commissure and interocular transfer of pattern discrimination in cichlid fish. *Exp. Neurol.*, **16**, 215-225, 1966.
- MARK, R. F. and DAVIDSON, T. M. — Unit responses from commissural fibres of optic-lobes of fish. *Science*, **152**, 797-799, 1966.
- MARK, R. F., VON CAMPENHAUSEN, G., and LISCHINSKY, D. J. — Nerve-muscle relations in the salamander: possible relevance to nerve regeneration and muscle specificity. *Exp. Neurol.*, **16**, 438-449, 1966.
- PHILLIS, J. W. — Innervation and control of a molluscan (tapes) heart. *J. Comp. Biochem. Physiol.*, **17**, 719-739, 1966.
- PHILLIS, J. W. — Regulation of rectal movements in *Tapes watlingi*. *J. Comp. Biochem. Physiol.*, **17**, 709-728, 1966.
- PHILLIS, J. W. — Acetylcholine release from the cerebral cortex. *Proc. Aust. Physiol. Soc.*, **9**, 10, 1966.
- PORTER, R. — Lingual mechanoreceptors activated by muscle twitch. *J. Physiol.*, **183**, 101-111, 1966.
- PORTER, R. — Synaptic influences of lingual exteroceptors on hypoglossal motoneurons. *J. Physiol.*, **184**, 24-25, 1966.
- PROSKE, U. — Responses of muscle spindles in the lizard. *Proc. Aust. Physiol. Soc.*, **9**, 21, 1966.
- PUGSLEY, I. D., JOHNSTONE, B. M., and JOHNSTONE, J. R. — An electrical model for passive behaviour of the first turn of the guinea-pig cochlea. *Proc. Aust. Physiol. Soc.*, **8**, 28, 1966.
- SABINE, J. R. and BENTLEY, G. A. — Effects of ionic alterations on various sympathetic nerve smooth muscle preparations. *Aust. J. Exp. Biol. Med. Sci.*, **44**, 485-502, 1966.
- SMITH, J. C. — Pharmacologic interactions with 4-(m-chlorophenyl-carbamoyloxy)-2-butyltrimethylammonium chloride, a sympathetic ganglion stimulant. *J. Pharmacol. Exp. Therap.*, **153**, 276-284, 1966.
- SMITH, J. C. — Observations on the selectivity of stimulant action of 4-(m-chlorophenyl-carbamoyloxy)-2-butyltrimethylammonium chloride on sympathetic ganglia. *J. Pharmacol. Exp. Therap.*, **153**, 266-275, 1966.
- TILLE, J. — Electronic interaction between muscle fibres in the rabbit ventricle. *J. Gen. Physiol.*, **50**, 189-202, 1966.
- VAUGHAN, P. and PILAR, G. — Innervation of the pigeon iris. *Med. Research*, **1**, 169, 1966.
- WEISS, M. and McDONALD, I. R. — Corticosteroid secretion in the Australian phalanger, (*Trichosurus vulpecula*). *J. Gen. Comp. Endocrinol.*, **7**, 345-351, 1966.
- WEISS, M. and McDONALD, I. R. — Adrenocortical secretion in the wombat, *Wombatus Hirsutus* Perry. *J. Endocrin.*, **35**, 207-208, 1966.
- WESTERMAN, R. A. and SEILER, G. — Cerebellar purkinje-cell damage induced by intracerebral eosinophil injections. *Proc. Aust. Physiol. Soc.*, **2**, 46, 1966.

*Department of Surgery**Scientific*

- DUDLEY, H. A. F. — Methods of giving intravenous calories in surgical patients. In *Modern Trends in Surgery*, II, edit. W. Irvine, London, 1966.
- DUDLEY, H. A. F. — Kocher's manoeuvre. *Surg. Gynec. & Obstet.*, **122**, 604, 1966.
- DUDLEY, H. A. F. — Barium meal examination following Billroth I gastrectomy. *Brit. J. Surg.*, **53**, 403, 1966.
- MASTERTON, J. P. — Combined surgery for cancer: case report. *Alfred Hospital Clin. Rep.*, **113**, 125, 1966.
- MCDERMOTT, F. T. — Technique for serial blood sampling in the mouse and rat. *Med. Technology in Aust.*, **8**, 63, 1966.
- MCDERMOTT, F. T. — Improved treatment of pilonidal sinus. *Modern Med. of Aust.*, **9**, no. 10, 59, 1966, and *Modern Med. of U.S.A.*, 1966 (abstract).
- MAINLAND, J. — A simple photo-electric method for the estimation of blood loss during surgery. *Brit. J. Anaesth.*, **38**, 76, 1966.
- NAYMAN, J. — Renal transplantation. *Med. J. Aust.*, **1**, 678, 1966.
- NAYMAN, J. — Anal retractors. A brief survey and description of a new single multipurpose instrument. *Aust. & N.Z. J. Surg.*, **35**, 268, 1966.
- NAYMAN, J. — An arteriovenous shunt for use in periodic haemodialysis. *Developments in Dialysis*, **2**, 24, 1966.
- NAYMAN, J. — Septicaemia as a complication in 85 cases of acute and chronic renal failure. *Med. J. Aust.*, **2**, 507, 1966.
- NAYMAN, J. — Examination of urinary deposits. *Med. J. Aust.*, **1**, 316, 1966.
- NAYMAN, J. — Dynamics of dialysis. *Aust. and N.Z. J. Surg.*, **35**, 161, 1966.
- NAYMAN, J. — Modifications to Travenol twin-coil dialyser. *Med. J. Aust.*, **1**, 752, 1966.
- NAYMAN, J. — Improving the efficiency of an artificial kidney: the use of increased dialysate flow rate. *Med. & Biol. Engng.*, **4**, 403, 1966.
- NAYMAN, J. — Effect of renal failure on wound healing in dogs. Response to haemodialysis following uraemia induced by uranium nitrate. *Ann. Surg.*, **164**, 227, 1966.
- NAYMAN, J. — Unilateral multicystic kidney. *Alfred Hospital Clin. Rep.*, 1966.
- WATTS, J. MCK. — Early course of ulcerative colitis. *Gut*, **7**, 16, 1966.
- WATTS, J. MCK. — The role of the common bile duct in biliary dynamics. *Surg. Gynec. & Obstet.*, **122**, 1207, 1966.
- WATTS, J. MCK. — Incidence and management of anorectal abscess, fistula and fissure in patients with ulcerative colitis. *Diseases of the Colon and Rectum*, **9**, 201, 1966.
- WATTS, J. MCK. — Local complications of ulcerative colitis: stricture pseudopyposis and carcinoma of the colon and rectum. *Brit. Med. J.*, **1**, 1442, 1966.
- WATTS, J. MCK. — Long-term prognosis of ulcerative colitis. *Brit. Med. J.*, **1**, 1447, 1966.

- WATTS, J. MCK. — Sigmoidoscopy and cytology in the detection of microscopic disease of the rectal mucosa in ulcerative colitis. *Gut.*, **7**, 288, 1966.
- WATTS, J. MCK. — Early results of surgery for ulcerative colitis. *Brit. J. Surg.*, **53**, 1006, 1966.
- WATTS, J. MCK. — Long-term complications and prognosis following major surgery for ulcerative colitis. *Brit. J. Surg.*, **53**, 1014, 1966.

#### *Non-Scientific*

- DUDLEY, H. A. F. — Textbook. A time to stop. *Lancet*, **1**, 589, 1966.
- DUDLEY, H. A. F. — Textual decay. *Amer. Heart J.*, **72**, no. 4, 573, 1966.
- DUDLEY, H. A. F. — On being a departmental chairman. *Uni of Edinburgh Journal*, September, 1966.
- MASTERTON, J. P. — Frozen food and hospital catering. *The Journal of the Dietetic Assoc. Vic.*, **17**, no. 3, 10, 1966.

### FACULTY OF SCIENCE

#### *Department of Botany*

- CHURCHILL, D. M. — Review of a book: The Development of British Heathlands and Their Soils, by G. W. Dimbleby, *Proc. Prehist. Soc.*, **31**, 378-379, 1966.
- CHURCHILL, D. M. — Vegetation change in relation to moisture regime in Western Australia. *Proc. Inter. Symposium Royal Meteor Soc.*, 153-154, 1966.
- GAFF, D. F. — The sulphhydryl-disulphide hypothesis in relation to desiccation injury of cabbage leaves. *Aust. J. Biol. Sci.*, **19**, 291-299, 1966.
- HOLLAND, A. A. — Serologic characteristics of certain root-nodule bacteria of legumes. *Antonie van Leeuwenhoek*, **32**, 410-418, 1966.
- HOLLAND, A. A. — Studies on microbial antagonism in the establishment of clover pasture. I: the number of species and percentage frequency of occurrence of the major fungi. *Plant & Soil*, **25**(2), 238-248, 1966.
- HOLLAND, A. A. and PARKER, C. A. — Studies on microbial antagonism in the establishment of clover pasture. II: the effect of saprophytic soil fungi upon the nodulation and growth of subterranean clover. *Plant and Soil*, **25**, 329-346, 1966.
- CANNY, M. J. — Botany on the rocks. *Monash Gazette*, **III**, no. 1, 15-17, 1966.

#### *Department of Chemistry*

- BROWN, R. D. and KRISHNA, V. G. — Excited electronic states of cyclopropene. *J. Chem. Phys.*, **45**, 1482-1487, 1966.

- BROWN, R. D. and BURDEN, F. R. — 3, 4-dimethylenecyclobutene — alternant or non-alternant. *Chem. Comm.*, 448, 1966.
- BROWN, R. D. and NUNN, E. K. — The effect of ionic lattices on the electronic structures of polyatomic ions. *Aust. J. Chem.*, **19**, 67-1976, 1966.
- COATES, G. E., KOWALA, C., and SWAN, J. M. — Co-ordination compounds of group IB metals, I. Triethylphosphine complexes of gold (I), mercaptides. *Aust. J. Chem.*, **19**, 539-545, 1966.
- KOWALA, C. and SWAN, J. M. — Co-ordination compounds of group IB metals II. Some tertiary phosphine and phosphite complexes of gold (I). *Aust. J. Chem.*, **19**, 547-554, 1966.
- KOWALA, C. and SWAN, J. M. — Co-ordination compounds of group IB metals, III. Triethyl- and triphenyl-phosphine complexes of cuprous, argentous and aurous NN-dialkyldithiocarbamates. *Aust. J. Chem.*, **19**, 555-559, 1966.
- BROWN, R. F. C., RAE, I. D., SHANNON, J. S., STERNHELL, S., and SWAN, J. M. — Synthetic studies in the 1,2-dithiole series, IV. The methylation of 4-benzamido-1, 2, dithiole-3-thione. *Aust. J. Chem.*, **19**, 503-511, 1966.
- OCOLOWITZ, J. L. and SWAN, J. M. — Organophosphorus compounds, VII. Electron-impact fragmentation of esters and phosphonic acids. *Aust. J. Chem.*, **19**, 1187-1195, 1966.
- FERGUSON, J. and WEST, B. O. — The properties of transition metal complexes of dipyrromethenes. Part I. The spectra and magnetic moments of some nickel (II) complexes. *J. Chem. Soc. A.*, 1565-1568, 1966.
- FERGUSON, J. and WEST, B. O. — The properties of transition metal complexes of dipyrromethenes. Part II. Dipyrromethenes as unidentate ligands. *J. Chem. Soc. A.*, 1569-1572, 1966.
- CATTRALL, R. W. and WEST, B. O. — The extraction of iron (III) from aqueous sulphate solutions by di(3, 5, 5-trimethylheptyl)amine. Part I. The nature of the extracted species. *J. Inorg. Nuclear Chem.*, **28**, 3035-42, 1966.
- CATTRALL, R. W. and WEST, B. O. — The distribution of sulphuric acid between alcohol and water. *Aust. J. Chem.*, **19**, 2385-2387, 1966.
- DICKSON, R. S. and WEST, B. O. — Fluorocarbon aluminium compounds. Part I. Reactions of some fluorocarbon halides with lithium tetrahydraluminate. *Aust. J. Chem.*, **19**, 2073-2078.
- BLACK, D. St. C. — The chemical basis of heredity. *Exordia*, 18, 1966.
- BAPAT, J. B. and BLACK, D. St. C. — Ready formation of the 2,2'-Bipyrrylidiny system. *Chem. Comm.*, 902, 1966.
- CONNETT, J. E., DAVIES, A. G., DEACON, G. P., and GREEN, J. H. S. — Organomercury compounds. Part I. Mercury-pentafluorobenzoates and their decarboxylation to pentafluorophenylmercury compounds. *J. Chem. Soc. C.*, 106, 1966.
- TAYLOR, F. B. and DEACON, G. B. — Tetraethylammonium tetrahalogenozincate (II) complexes with mixed halide ligands. *J. Chem. Soc. A.*, 463, 1966.
- CULLEN, W. R., DEACON, G. B., and GREEN, J. H. S. — The infrared spectra of some mixed alkylaryl-arsonium salts. *Canadian J. Chem.*, **44**, 717, 1966.



- CONNETT, J. E. and DEACON, G. B. — Preparations of complexes of bisperfluoroalkylmercurials by decarboxylation reactions. *J. Chem. Soc. C.*, 1058, 1966.
- DEACON, G. B., GREEN, J. H. S., and KYNASTON, W. — Far infrared and raman spectra of some crystalline halomercurate (II) complexes. *Aust. J. Chem.*, 19, 1603, 1966.
- DEACON, G. B. — A preparative distinction between donor properties of 1, 10-phenanthroline and 2,2'-bipyridyl. *Inorg. and Nuclear Chem. Letters*, 2, 299, A, 1966.
- DEACON, G. B. and GREEN, J. H. S. — Assignments of metal-ligand vibrations for triphenylphosphine complexes. *Chem. Comm.*, 629, 1966.
- DEACON, G. B. and FELDER, P. W. — Organomercury compounds. Part III. Acceptor properties of bispentachlorophenylmercury. *Aust. J. Chem.*, 19, 2381, 1966.
- ANGER, J. W., EASTWOOD, F. W., and ROBINSON, R. — Rearrangements of epoxides of d-unsaturated ketones. *Tetrahedron*, supplement No. 7, 277-280, 1966.
- DELPPIERRE, G. R., EASTWOOD, F. W., GREEN, G. E., KINGSTON, D. G. I., SARIN, P. S., LORD TODD, and WILLIAMS, D. H. — Antibiotics of TH ostreogrycin complex. Part II. Structure of ostreogrycin A. *J. Chem. Soc. C.*, 1653-1669, 1966.
- ETTERS HANK, G., FULLER, M., and BROUGH, ELAINE J. — Hemiptera from saline waters in inland Australia. *Aust. J. Sci.*, 29, 144, 1966.
- BLACK, P. J. and HEFFERNAN, M. L. — The analysis of proton magnetic resonance spectra of heteroaromatic systems, VI. Isoquinoline. *Aust. J. Chem.*, 19, 1287-1290, 1966.
- HEFFERNAN, M. L. and JONES, A. J. — Benzene isomers from the thermal rearrangement of hexa-1, 5-diyne. *Chem. Comm.*, 120, 1966.
- HEFFERNAN, M. L. and JONES, A. J. — Proton magnetic resonance studies of non-alternant hydrocarbons. I. Some comments on the aromatic character of the fulvenes. *Aust. J. Chem.*, 19, 813-820, 1966.
- BARAKAT, T. M., NELSON, M. J., NELSON, S. M., and PULLIN, A. D. E. — Spectra and hydrogen-bonding characteristics of thiocyanic acid. Part 3, Thermodynamics of Hydrogen-Bonding with ethers. *Transactions of the Faraday Soc.*, 62, 2674-2684, 1966.
- SMITH, T. D. — Formation of mercuric iodo-acetate in glacial acetic acid and its reactions with olefines. *Nature*, 209, 901, 1966.
- SMITH, T. D. — The reaction of N,N-dimethylformamide with phosphorus trichloride. *J. Chem. Soc. A.*, 841-842, 1966.
- DUNHILL, R. H., PILBROW, J. R., and SMITH, T. D. — Electron spin resonance of copper (II) citrate chelates. *J. Chem. Phys.*, 45, 1474-1481, 1966.
- WATERS, W. A. and WILSON, I. R. — Mechanism of the oxidation of hydroxylamine by ceric sulphate. *J. Chem. Soc. A.*, 534, 1966.
- SMITH, R. H. and WILSON, I. R. — The mechanism of the oxidation of thiocyanate ion by peroxomonosulphate in aqueous solution, I. Stoichiometry of the reaction. *Aust. J. Chem.*, 19, 1357, 1966.

- SMITH, R. H. and WILSON, I. R. — The mechanism of the oxidation of thiocyanate ion by peroxomonosulphate in aqueous solution II. Kinetics of the reaction. *Aust. J. Chem.*, **19**, 1365, 1966.
- WILSON, I. R. — Oxidation-reduction chemistry of the ferricyanide-ferrocyanide system. *Rev. Pure and Appl. Chem.*, **16**, 103, 1966.

*Department of Mathematics*

- JANKO, Z. — A new finite simple group with abelian Sylow 2-subgroups and its characterization. *J. Algebra*, **3**, 147-186, 1966.
- JANKO, Z. — A characterization of the smallest group of Ree associated with the simple Lie algebra of type  $(G_2)$ . *J. Algebra*, **4**, 293-299, 1966.
- JANKO, Z., with THOMPSON, J. G. — On a class of finite simple groups of Ree. *J. Algebra*, **4**, 274-292, 1966.
- JANKO, Z. — A characterization of a new simple group. *Proc. Internat. Conf. Theory of Groups*, Canberra, 1965, New York, 205-208, 1966.
- JANKO, Z., with GAGEN, T. M. — Finite groups with nilpotent third maximal subgroups. *J. Aust. Math. Soc.*, **6**, 466-469, 1966.
- MILLER, J. B. — Averaging and Reynolds operators on Banach algebras, I. Representation by derivations and anti-derivations. *J. Math. Analysis and Appl.*, **14**, 527-548, 1966.
- MILLER, J. B. — Some properties of Baxter operators. *Acta Math. Acad. Sci. (Hung.)*, **17**, 387-400, 1966.
- VAN DER BORGHT, R. and MURPHY, J. O. — Anharmonic pulsations of an early main sequence star. *Monthly Notices R.A.S.*, **131**, 225-235, 1966.
- VAN DER BORGHT, R. — General relativistic fluid spheres with variable polytropic index. *J. Aust. Math. Soc.*, **6**, 139-147, 1966.
- VAN DER BORGHT, R. and WAN FOOK SUN. — Note on Cowling's method in the theory of non-radial oscillations of massive stars. *Aust. J. Phys.*, **19**, 467-470, 1966.
- GLEESON, L. J. — Forced motion of a charged particle in a magnetic field. *J. Aust. Math. Soc.*, **6**, 385-398, 1966.
- ENGLEFIELD, M. J. — The commuting inverses of a square matrix. *Proc. Camb. Phil. Soc.*, **62**, 667-671, 1966.
- STRZELECKI, E. — Power associative regular real normed algebras. *J. Aust. Math. Soc.*, **6**, 193-209, 1966.
- HELD, D. H. W. — On abelian subgroups of an infinite 2-group. *Acta Scient. Math.*, **27**, fasc. 1-2, 97-98, 1966.
- HELD, D. H. W. — On bounded Engel elements in groups. *J. Algebra*, **3**, no. 3, 360-365, 1966.

*Department of Physics*

- BASTOW, T. J. — The magnetic structures of dilute Cr-Mn alloys. *Proc. Phys. Soc.*, **88**, 935-942, 1966.

- BASTOW, T. J. and STREET, R. — The magnetic structures of field cooled and stress cooled chromium. *Phys. Rev.*, **141**, 510-516, 1966.
- BOAS, J. and WINDOW, B. — Mössbauer effect in ferritin. *Aust. J. Phys.*, **19**, 573-576, 1966.
- BOLTON, H. C., BURSILL, L. A., McLAREN, A. C., and TURNER, R. G. — On the origin of the colour of labradorite. *Physica Status Solidi*, **18**, 221-230, 1966.
- BROWN, R. A. — Electron distribution about an edge dislocation in a metal. *Physical Review*, **141**, 568-572, 1966.
- BURSILL, L. A. and McLAREN, A. C. — Transmission electron microscope study of natural radiation damage in zircon ( $ZrSiO_4$ ). *Physica Status Solidi*, **18**, 331, 1966.
- DALTON, B. J. — Classification of the states of non-rigid molecules. *Molec. Phys.*, **10**, 265-285, 1966.
- DALTON, B. J. — Classification of rotational energy levels for linear molecules. *J. Chem. Phys.*, **44**, 4406-4415, 1966.
- DUNHILL, R. H., PILBROW, J. R., and SMITH, T. D. — Electron spin resonance of Cu (11) citrate chelates. *J. Chem. Physics*, **45**, 1474-1481, 1966.
- FRANCEY, J. L. A. and HUI, S. W. — Standing wave helicon resonance in a cylindrical medium. *Symposium on Plasma Engineering*, University of Sydney, February, 1966.
- HUI, S. W. — Standing wave helicon resonance in a cylindrical medium. *Brit. J. App. Phys.*, **17**, 1405-1408, 1966.
- HUTTON, D. R. and TROUP, G. J. — Paramagnetic resonance centres in amethyst and citrine quartz. *Nature*, **211**, 621, 1966.
- McLAREN, A. C. and PHAKEY, P. P. — Electron microscope study of brazil twin boundaries in amethyst quartz. *Physica Status Solidi*, **13**, 413, 1966.
- McLAREN, A. C. and PHAKEY, P. P. — Transmission electron microscope study of bubbles and dislocations in amethyst and citrine quartz. *Aust. J. Phys.*, **19**, 19, 1966.
- MALSEED, C. F. S., NETHERCOTT, R. B., and RACHINGER, W. A. — Removal of superconducting surface sheath by copper plating. *Physics Letters*, **22**, 551, 1966.
- OSBORNE, C. F. — Flow birefringence of DNA molecules. *J. Chem. Phys.*, **44**, 2735-2739, 1966.
- RACHINGER, W. A. — Nucleation of the superconducting phase. *Jour. Aust. Inst. Met.*, **11**, 231-234, 1966.
- ROBERTS, A. P. — Long-range disorder and localized electron states. *Physics Letters*, **20**, no. 2, 139, 1966.
- STREET, R. and WINDOW, B. — Nuclear Zeeman effect of  $^{119}Sn$  dissolved in chromium. *Proc. Phys. Soc.*, **89**, 587-594, 1966.
- TROUP, G. J. — Time domain analysis of photon beams. *Proc. Phys. Soc.*, **87**, 361, 1966.
- TROUP, G. J. — Semi-classical and quantum treatments of signal plus noise. *Nuovo Cimento*, **XLII**, 79, 1966.
- TROUP, G. J., ELLISTON, P., and WINDER, F. — Balanced harmonic generator-detector system for 2mm and 1.4mm radiation. *Electronics Letters*, **2**, 26-27, 1966.

- TROUP, G. J. — Maser. *Reinhold Encyclopaedia of Physics*, 400, 1966.  
 TROUP, G. J. — Masers and Lasers. Translated into German (Oldenbourg Verlag, Berlin, publishers), 192, 1966.

*Department of Psychology*

- DAY, R. H. — Perception in Psychology: A Self-Selection Textbook. William C. Brown, Dubuque, Iowa, 1-51, 1966.  
 DAY, R. H., with SINGER, G. — The effects of spatial judgments on the perceptual after-effects from prismatically transformed vision. *Aust. J. Psychol.*, 18, no. 1, 63-70, 1966.  
 DAY, R. H., with SINGER, G. — Spatial adaptation and aftereffect with optically transformed vision: effects of active and passive responding. *J. Exp. Psychol.*, 71, no. 5, 725-731, 1966.  
 DAY, R. H., with SINGER, G. — Sensory and perceptual adaptation with aftereffect: evidence for two processes. *Proceedings of the Institute of Juvenile Research*, Chicago, 187-209, 1966.  
 WORTHINGTON, A. G. and MACMILLAN, M. B. — Maze preferences in naive rats produced by injection of ribonucleic acid from trained rats—a comment. *Psychonom. Sci.*, 5, no. 7, 298, 1966.  
 WORTHINGTON, A. G. — Generalization phenomena associated with previous pairings of U.S.C. (shock) and subliminal visual stimuli. *J. Pers. & Soc. Psychol.*, 3, no. 6, 634-640, 1966.  
 WEBSTER, W. R., with DUNLOP, C. W. and RODGERS, R. S. — Click-evoked response patterns of single units in the medial geniculate body of the cat. *J. Auditory Res.*, 6, no. 3, 47-66, 1966.  
 WEBSTER, W. R., with AITKEN, L. M. and DUNLOP, C. W. — Acoustic habituation in cats as a function of stimulus rate and the role of temporal conditioning in the middle ear muscles. *J. Neurophysiol.*, 29, no. 1, 109-123, 1966.  
 WEBSTER, W. R., with AITKEN, L. M. and DUNLOP, C. W. — Acoustic habituation in cats as a function of stimulus rate and the role of temporal conditioning of the middle ear muscles. *J. Electroenceph. Clin. Neurophysiol.*, 20, no. 5, 485-493, 1966.

*Department of Zoology and Comparative Physiology*

- BAYLY, I. A. E. and GREENWOOD, J. — A new species of *Calanopia* (Copepoda: Calanoida) from Moreton Bay, Queensland. *Proc. R. Soc. Qd.*, 77, 99-105, 1966.  
 BAYLY, I. A. E. — The Australian species of *Diaptomus* (Copepoda: Calanoida) and their distribution. *Aust. J. Mar. Freshwat. Res.*, 17, 123-134, 1966.  
 BAYLY, I. A. E. — A new species and new records of *Pseudodiaptomus* (Copepoda: Calanoida) from the Brisbane River estuary, Queensland. *Proc. R. Soc. Qd.*, 78, 49-58, 1966.

- BAYLY, I. A. E. and WILLIAMS, W. D. — Chemical and biological studies on some saline lakes of south-east Australia. *Aust. J. Mar. Freshwater Res.*, **17**, 177-228, 1966.
- BAYLY, I. A. E. and WILLIAMS, W. D. — Further chemical observations on some volcanic lakes in the south-east of South Australia. *Aust. J. Mar. Freshw. Res.*, **17**, 229-237, 1966.
- BAYLY, I. A. E. — Queensland's coastal dune lakes and their life. *Wildlife in Australia*, **3**, 5, 154-157, 1966.
- DORWARD, D. F., with WEST, R. A. — Further notes on improved coloured rings. *Emu*, **66**, 103-104, 1966.
- EALEY, E. H. M. — Echidna, a link with the past. *Victoria's Resources*, **8**, 2, 38-39, 1966.
- EALEY, E. H. M. and ETTERS HANK, G. — Integration and recording of radio-transmitted temperature. *Aust. Jour. Instr. Technology*, 48-50, Sept., 1966.
- EALEY, E. H. M., with DIENER, E. — Phylogenetical development of the immune system with special reference to the primitive mammals, echidna and platypus. *The Plenary Session of the XIth International Congress of Haematology, Sydney*, V. C. N. Blight, Government Printer, 1-5, 1966.
- ETTERS HANK, G. — A generic revision of the world Myrmicinae related to *Solenopsis* and *Pheidologeton* (Hymenoptera: Formicidae). *Aust. J. Zool.*, **14**, 73-171, 1966.
- ETTERS HANK, G., with EALEY, E. H. M. — Integration and recording of radio transmitted temperatures. *Conference on Instrumentation for Plant Environment Measurements*, The Society of Instrument Technology, Melb., 48-50, 1966.
- ETTERS HANK, G., FULLER, M., and BROUGH, E. J. — Hemiptera from saline waters in inland Australia. *Aust. J. Sci.*, **29**, 144-145, 1966.
- HISCOCK, I. D. — The Shore and the Shallows. Chapter in *The Great Extermination*, Heinemann, Melb., 116-132, 1966.
- LEE, A. K., with BEST, E., MORGAN, D. G., NICHOLAS, J. R., and PITMAN, M. — Biological science: the web of life. *Students' Manual* pt. 1, 182, and *Students' Manual* pt. 2, 213; *Teachers' Guide*, 248, Australian Academy of Science, Canberra, 1966.
- LEE, A. K., with STRAUGHAN, I. R. — A new genus and species of leptodactylid frog from Queensland. *Proc. Roy. Soc. Qld.*, **77**, 63-66, 1966.
- MCLAREN, W. D. — The Flinders Island Wombat. *Wildlife in Australia*, **3**, no. 4, 110-113, 1966.
- MARSHALL, A. J. — Unknown Australia. *Aust. Nat. Hist.*, **15**, 169-172, 1966.
- MARSHALL, A. J. (Editor). — *The Great Extermination*. Heinemann, Melb., 221 pp., 1966.
- NAYUDU, P. R. V. and
- MOOG, F. — Intestinal alkaline phosphatase: regulation by a strain specific factor in mouse milk. *Science*, **152**, no. 3722, 656-657, 1966.
- POLLARD, D., with
- SCOTT, T. D. — River and Reef. Chapter in *The Great Extermination*, Heinemann, Melb., 95-116, 1966.

- WILLIAMS, W. D. — The Phreatoicids. *Aust. Nat. Hist.*, 165-168, 1966.
- WILLIAMS, W. D. — Conductivity and the concentration of total dissolved solids in Australian lakes. *Aust. J. Mar. Freshw. Res.*, 17, 169-176, 1966.

*Computer Centre*

- BELLAMY, C. J. — Computer-based hospital systems. *Med. J. Aust.*, 2, no. 11, 485-487, 1966.

LIBRARY

- CAMPBELL, D. V. A. and  
SOUTHWELL, B. — Data processing in Monash University library. *Australian Library Journal*, vol. XV., no. 5, 76-180, 1966.
- SNOXALL, P. R. and  
SOUTHWELL, T. B. — Student reading computer programme at Monash University Library. *L.A.G.*, no. 2, 8-10, 1966.

For and on behalf of the Council,



R. R. BLACKWOOD

Chancellor.

## ACCOUNTS FOR THE YEAR 1966

The audited accounts of the University for the year 1966 follow these introductory notes, in which reference is made to some of the salient features thereof. The date to which the accounts are made up, viz. December 31, 1966, marks the end of the third of the triennial periods into which the calendar is divided for the purpose of the determination of government support for Australian universities.

The Auditor-General's Certificate refers to the absence of supporting material relating to the Bookshop's creditors and stocks on hand at December 31, 1966. To meet the Auditor-General's point, attributable to the fact that the Bookshop's financial year terminated on September 30, the University has decided that, with effect from 1967, the bookshop's financial year shall coincide with the University's, i.e. that it shall end on December 31.

1. *Capital Funds*

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

	\$000	%
State Government Grants	16,847	50.8
Commonwealth Government Grants	16,350	49.2
	<u>33,197</u>	<u>100.0</u>

These funds have been expended as follows:

	\$000	%
Land	480	1.5
Site Development	2,362	7.3
Buildings	26,130	81.3
Furniture	1,350	4.2
Equipment	1,113	3.5
Research Projects (mainly Equipment)	700	2.2
	<u>32,135</u>	<u>100.0</u>

At the balance date funds for building and research projects totalling \$1,061,828 were held against payments to be made under building contracts and delivery of research equipment.

## 2. Recurrent Funds

A brief summary of the income and expenditure for recurrent purposes for the year ended December 31, 1966, is given hereunder:

	\$000	%
<i>Income:</i>		
State Government Grants	4,865	50·6
Commonwealth Government Grants	3,375	35·1
Academic Fees and Fees for Special Short Courses	1,381	14·3
	<u>9,621</u>	<u>100·0</u>
 <i>Expenditure:</i>		
Teaching and Research	6,766	70·9
Libraries	682	7·1
Administration	1,101	11·5
Buildings and Grounds	818	8·6
Other	182	1·9
	<u>9,549</u>	<u>100·0</u>

The \$72,020 remaining at the balance date was held against purchase orders placed, but for which goods and services were not supplied or completed until 1967.

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



**MONASH UNIVERSITY**  
**(I) STATEMENT SHOWING INCOME AND EXPENDITURE FOR ALL PURPOSES**  
**YEAR ENDED DECEMBER 31, 1966**

	DIRECT GOVERNMENT GRANTS					INDIRECT GOVERNMENT GRANTS AND OTHER FUNDS			TOTAL
	<i>Recurrent</i>	<i>Research Projects</i>	<i>Buildings, Equipment and Furniture</i>	<i>Recurrent (Teaching)</i>	<i>Buildings, Equipment and Furniture (Hospitals)</i>	<i>Grants and Donations</i>	<i>Union Development</i>	<i>Other Items</i>	
	\$	\$	\$	\$	\$	\$	\$	\$	\$
INCOME —									
State Government Grants:									
Received this year	4,832,748	251,311	1,560,000	46,598	384,600				7,075,257
Deduct Accrual at January 1, 1966		19,000 Dr.	700,000 Dr.	14,592 Dr.					733,592 Dr.
Commonwealth Government Grants:									
Received this year	3,358,000	232,311	800,000		114,845				4,505,156
Add Accrual at December 31, 1966			60,000	25,131	269,755				354,886
Deduct Accrual at January 1, 1966				7,888 Dr.					7,888 Dr.
Academic Fees	1,370,941								1,370,941
Fees for Special Short Courses	9,751								9,751
Union:									
Fees								144,762	144,762
Other Income								11,774	11,774
Union Development Fees							80,418		80,418
Grants and Donations:									
Government-financed Bodies						152,818			152,818
Other						459,693			459,693
Appeals:									
Great Hall						52,760			52,760
Religious Centre						43,003			43,003
Outside Earnings							23,859	38,043	61,902
Other Income								58,876	58,876
<b>TOTAL INCOME</b>	<b>9,571,440</b>	<b>464,622</b>	<b>1,720,000</b>	<b>49,249</b>	<b>769,200</b>	<b>708,274</b>	<b>104,277</b>	<b>253,455</b>	<b>13,640,517</b>

	DIRECT GOVERNMENT GRANTS					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	
	\$	\$	\$	\$	\$	\$	\$	\$	
<b>EXPENDITURE --</b>									
<i>Teaching and Research:</i>									
Salaries	4,374,908	24,371		32,429		113,478			4,545,186
Superannuation	321,598					2,622			324,220
Departmental Maintenance	748,895	34,899		31,347		50,688			865,829
Minor Equipment	699,558	142,491	174,663		2,216	95,242			1,114,170
Major Equipment		96,485							96,485
Research Scholarships and Fellowships	256,449					133,517			389,966
Study Leave Grants and Overseas Travel	38,326								38,326
New Appointments	103,294								103,294
Other	158,771	617				3,082			162,470
<i>Libraries:</i>									
Salaries	312,098								312,098
Superannuation	12,252								12,252
Books, Journals and Binding	318,427	7,779		3,000		3,927			333,133
Equipment and Furniture	8,185								8,185
Other	28,334								28,334
<i>Administration:</i>									
Salaries	684,986								684,986
Superannuation	41,246								41,246
Postage, Telephone and Advertising	119,901								119,901
Equipment	32,878								32,878
Other	222,256					2,000			224,256
<b>Forward:</b>	<b>8,482,362</b>	<b>306,642</b>	<b>174,663</b>	<b>66,776</b>	<b>2,216</b>	<b>404,556</b>			<b>9,437,215</b>

	DIRECT GOVERNMENT GRANTS					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	
	\$	\$	\$	\$	\$	\$	\$	\$	\$
Forward:	8,482,362	306,642	174,663	66,776	2,216	404,556			9,437,215
<i>Buildings and Grounds:</i>									
Construction of New Buildings		225	1,420,712		130,086	265	10,063	3,086	1,564,437
Site Development			267,698				2,864		270,562
Purchase of Land and Buildings							182,400	41,492	223,892
Repairs and General Maintenance	484,367			3,041					487,408
Furniture and Furnishings	65,112		122,357		8,221			770	196,460
Rents, Rates, Power, Lighting, Heating	212,900			304					213,204
Equipment	12,946								12,946
Other	38,789								38,789
<i>Sundry Expenditure:</i>									
Union Activities	7,893					496	29,581	145,267	183,237
Student Services	69,229								69,229
Audio-Visual Aids	68,253		30,000						98,253
Scholarships and Prizes	21,041					2,635			23,676
Halls of Residence						837		40,161 Cr.	39,324 Cr.
Transit Flats								4,709 Cr.	4,709 Cr.
University Bookshop								23,620	23,620
Expenditure re Outside Earnings								26,643	26,643
Appeals:									
Great Hall						42			42
Religious Centre						3,249			3,249
Other	15,656					20,983		11,975	48,614
<i>Inter-Fund Transfers</i>	20,872			20,872 Cr.			5,075	5,075 Cr.	—
<b>TOTAL EXPENDITURE</b>	<b>9,499,420</b>	<b>306,867</b>	<b>2,015,430</b>	<b>49,249</b>	<b>140,523</b>	<b>433,063</b>	<b>229,983</b>	<b>202,908</b>	<b>12,877,443</b>
<b>STATE OF FUNDS—</b>									
Balance, January 1, 1966	980,536 Cr.	1,530 Dr.	575,360 Cr.	—	766 Dr.	537,616 Cr.	281,432 Dr.	17,376 Dr.	1,792,408 Cr.
Inter-Fund Transfer	2,238 Cr.		2,238 Dr.						
Result for Year:									
Deficit			295,430				125,706		
Surplus	72,020	157,755			628,677	275,211		50,547	763,074
Balance, December 31, 1966	1,054,794 Cr.	156,225 Cr.	277,692 Cr.	—	627,911 Cr.	812,827 Cr.	407,138 Dr.	33,171 Cr.	2,555,482 Cr.

## (II) STATEMENT OF SOURCES AND APPLICATION OF FUNDS

SOURCES —	1958-64	1965	1966	Progressive Totals to 31/12/1966
	\$	\$	\$	\$
(1) State Government Grants:				
Recurrent—				
General	7,385,316	4,365,598	4,832,748	16,583,662
Teaching Hospitals		14,592	32,006	46,598
Site, Buildings, Equipment and Furniture—				
General	12,233,158	2,108,880	860,000	15,202,038
Teaching Hospitals	832,200		384,600	1,216,800
Research Projects	157,000	39,000	232,311	428,311
Total State Government	20,607,674	6,528,070	6,341,665	33,477,409
(2) Commonwealth Government Grants:				
Recurrent—				
General	4,362,194	2,915,306	3,358,000	10,635,500
Teaching Hospitals		7,888	17,243	25,131
Site, Buildings, Equipment and Furniture—				
General	11,735,600	2,109,000	860,000	14,704,600
Teaching Hospitals	832,200		384,600	1,216,800
Research Projects	157,000	39,000	232,311	428,311
Total Commonwealth Government	17,086,994	5,071,194	4,852,154	27,010,342
Total Government:	37,694,668	11,599,264	11,193,819	60,487,751
(3) Academic Fees and Fees for Special Short Courses	1,004,280	1,025,052	1,380,692	3,410,024
(4) Union:				
Fees	139,314	103,812	144,762	387,888
Other Income	628	3,630	11,774	16,032
(5) Grants and Donations, including Appeals	551,402	750,848	708,274	2,010,524
(6) Union Development	65,154	76,644	104,277	246,075
(7) Other Income	240,650	63,954	96,919	401,523
<b>TOTAL FUNDS AVAILABLE</b>	<b>39,696,096</b>	<b>13,623,204</b>	<b>13,640,517</b>	<b>66,959,817</b>

	1958-64	1965	1966	Progressive Totals to 31/12/1966
	\$	\$	\$	\$
<b>APPLICATION—</b>				
(1) Recurrent Purposes:				
General—				
Salaries and other operating expenses	9,450,012	6,700,468	8,303,141	24,453,621
Equipment and Furniture	1,975,394	613,164	876,720	3,465,278
Books, Journals and Binding	1,124,826	235,810	319,559	1,680,195
Teaching Hospitals—				
Salaries and other operating expenses		20,980	46,249	67,229
Books, Journals and Binding		1,500	3,000	4,500
(2) Site Acquisition and Development	2,286,026	288,390	267,698	2,842,114
(3) Building Funds:				
General—				
Buildings	19,466,302	3,586,430	1,420,712	24,473,444
Equipment	634,430	192,090	204,663	1,031,183
Furniture	810,088	312,070	122,357	1,244,515
Teaching Hospitals—				
Buildings	1,521,970	4,174	130,086	1,656,230
Equipment	70,450	8,900	2,216	81,566
Furniture	84,676	12,686	8,221	105,583
(4) Research Projects	268,688	124,842	306,867	700,397
(5) Grants and Donations, including Appeals:				
Salaries and other operating expenses	242,236	280,684	330,275	853,195
Equipment and Furniture	174,906	59,890	98,596	333,392
Books and Journals	3,544	1,610	3,927	9,081
Buildings		1,764	265	2,029
(6) Union Development	280,574	142,656	229,983	653,213
(7) Other Expenditure	330,768	213,894	202,908	747,570
<b>TOTAL FUNDS APPLIED</b>	<b>38,724,890</b>	<b>12,802,002</b>	<b>12,877,443</b>	<b>64,404,335</b>

(III) STATEMENT OF BALANCES AT DECEMBER 31, 1966

	\$		\$
Sundry Creditors and Accrued Expenses	1,178,131	Cash on Hand and at Bank	167,423
Loans on Mortgage	412,590	Investments at Cost—	
State Government Grant Received in Advance	3,615	Short Term	2,500,000
Accumulated Funds—		Other (Par Value: \$656,392)	714,967
Direct Government Grants:			<u>3,214,967</u>
Recurrent	1,054,794	Sundry Debtors—	
Research	156,225	Accrued Government Grants	354,886
Buildings, Equipment and Furniture	277,692	Other	100,727
Recurrent (Teaching Hospitals)	—		<u>455,613</u>
Buildings, Equipment and Furniture (Teaching Hospitals)	627,911	Stocks on Hand	249,908
Indirect Government Grants and Other Funds:		Payments in Advance	61,907
Grants and Donations	812,827		
Union Development (Dr.)	407,138		
Other Items	33,171		
	<u>2,555,482</u>		
	<u>4,149,818</u>		<u>4,149,818</u>

(IV) STATEMENT OF RECEIPTS AND PAYMENTS OF TRUST FUNDS  
FOR YEAR ENDED DECEMBER 31, 1966

Cash at Bank, January 1, 1966		\$ 908
<i>Receipts—</i>		
Hooker Morawetz and Olver Scholarship	4,000	
Interest on Investments	2,720	
	6,720	
		7,628
<i>Payments—</i>		
Hooker Morawetz and Olver Scholarship	2,520	
Monash University Rowing Club	70	
The David B. Rosenthal Memorial Trust	49	
D. J. Shing Trust	200	
William and Katherine Winter Foundation	2,653	
Fixed Deposit	1,500	
	6,992	
Cash at Bank, December 31, 1966		636

SCHEDULE OF TRUST FUNDS AT DECEMBER 31, 1966

<i>Inscribed Stock—</i>		
Melbourne and Metropolitan Board of Works	50,000	
State Electricity Commission of Victoria	1,275	
Commonwealth Government	1,000	
	52,275	
<i>Fixed Deposit—</i>		
Commercial Bank of Australia Limited		1,500
<i>Current Account—</i>		
Commercial Bank of Australia Limited		636
		54,411

(V) STUDENTS' LOAN FUND

STATEMENT OF INCOME AND EXPENDITURE  
FOR YEAR ENDED DECEMBER 31, 1966

	\$		\$
Surplus transferred to Students' Loan Fund ....	290	Interest on Investments .....	286
		Interest on Loans .....	4
	<u>290</u>		<u>290</u>

BALANCE SHEET AS AT DECEMBER 31, 1966

	\$		\$
Students' Loan Fund—		Loans to Students .....	20,636
Balance, January 1, 1966 ....	20,333		
Surplus for Year .....	290		
	<u>20,623</u>		
Bank Overdraft .....	13		
	<u>20,636</u>		<u>20,636</u>



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 December 31, 1966, have been audited by officers acting under my direction.

In the absence of supporting material relating to bookshop sundry creditors and stocks on hand at December 31, 1966, the following items could not be verified:

(i) in Statement (I): University bookshop \$23,620; and

(ii) in Statement (III): Sundry Creditors and Accrued Expenses, \$86,448 out of \$1,178,131, and Stocks on Hand, \$162,972 out of \$249,908.

In my opinion, subject to the above observation, the Statements of Accounts herewith numbered (I) to (V) are correct.

A. J. A. GARDNER,

Auditor-General.

31/10/1967.





