THE
AUSTRALIAN NATIONAL UNIVERSITY
1967
REPORT
The Australian National University

REPORT OF THE COUNCIL FOR THE PERIOD
1 JANUARY 1967 TO 31 DECEMBER 1967
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THE AUSTRALIAN NATIONAL UNIVERSITY

REPORT OF THE COUNCIL FOR THE PERIOD
1 JANUARY 1967 TO 31 DECEMBER 1967

To His Excellency the Right Honourable Lord Casey, P.C., G.C.M.G., C.H.,
D.S.O., M.C., K.St.J., Governor-General and Commander-in-Chief in and
over the Commonwealth of Australia.

MAY IT PLEASE YOUR EXCELLENCY:

I have the honour to transmit to Your Excellency the Report of the Council
of the Australian National University for the period from 1 January 1967 to
31 December 1967 furnished in compliance with Section 33 of the Australian

H. C. COOMBS
Chancellor
The Council

The Council met five times during the year in March, April, July, September and November. The Chancellor presided over the meeting in April. Dr H. C. Coombs, Pro-Chancellor, presided over the other meetings.

The Chancellor, Lord Florey of Adelaide, was re-elected to hold office until 31 July 1969.

The terms of office of the following members expired on the dates shown:

Members chosen or elected: Mr D. A. L. Auld; Professor P. H. Partridge; Professor D. P. Scales; Professor E. W. Titterton; Mr S. C. Yocklunn—29 September 1967.

Professor D. N. F. Dunbar's membership of Council ceased on 29 September 1967, on the conclusion of his term of office as Dean of the Faculty of Science.

The following resignations from Council were accepted by the Council from the dates shown:

Professor G. S. L. Tucker—13 May 1967.
Mr D. M. Orr—31 December 1967.

MEMBERS OF THE COUNCIL AS AT 31 DECEMBER 1967

MEMBERS EX OFFICIO


Herbert Cole Coombs, M.A.(W.Aust.), Ph.D.(Lond.), Hon. D.Litt(W.Aust.), Hon. LLD.(Melb.)—The Pro-Chancellor.


Sir John (Grenfell) Crawford, C.B.E., M.Ec(Syd.), Hon. D.Sc.(N'cle (N.S.W.))—The Deputy Vice-Chancellor and Vice-Chancellor Designate.


Cecil Austin Gibb, M.A., B.Ec.(Syd.), Ph.D.(Ill.), F.A.P.S.—The Deputy Chairman of the Board of the School of General Studies.

MEMBERS ELECTED BY SENATE

Keith Alexander Laught, LL.B.(Adel.).
Elected 1 July 1959; re-elected 1 July 1962 and 1 July 1965; present tenure expires 30 June 1968.
MEMBERS ELECTED BY HOUSE OF REPRESENTATIVES

Kim Edward Beazley, B.A.(W.Aust.).
Became member of Interim Council 10 June 1949; elected to Council by House of Representatives 13 July 1951; re-elected 1 July 1955, 13 June 1956, 1 July 1958, 8 September 1960, 3 March 1964 and 3 May 1967; present tenure expires 2 May 1970.

Adrian Gibson, LL.B.(Tas.).
Elected 3 May 1967; present tenure expires 2 May 1970.

MEMBERS APPOINTED BY GOVERNOR-GENERAL

Kenneth John Clements, B.A.(Syd.), Bishop of Canberra and Goulburn.
Appointed 30 September 1966; present tenure expires 29 September 1969.

Sir Norman (Lethbridge) Cowper, C.B.E., B.A., LL.B.(Syd.).

John Qualtrough Ewens, C.B.E., LL.B.(Adel.).

Sir Warwick (Oswald) Fairfax, M.A.(Oxon.).

Herbert John Goodes, C.B.E., B.A.(W.Aust.).
Became member of Interim Council 9 August 1946; appointed to Council by Governor-General 1 July 1951; reappointed 1 July 1953, 1 July 1955, 1 July 1958, 30 September 1960, 30 September 1963 and 30 September 1966; present tenure expires 29 September 1969.

Brian William Hone, B.A.(Adel.), M.A.(Oxon.).

Peter James Lawler, O.B.E., B.Ec.(Syd.).

Appointed 26 May 1966; reappointed 30 September 1966; present tenure expires 29 September 1969

Sir (Horace) Frank Richardson.
Appointed 1 July 1953; reappointed 1 July 1955, 1 July 1957, 30 September 1960, 30 September 1963 and 30 September 1966; present tenure expires 29 September 1969.

Arthur Thomas Shakespeare.

Arthur John Russell Yencken, M.A.(Cantab.).
Appointed 26 May 1966; reappointed 30 September 1966; present tenure expires 30 September 1969.

CHOSEN FROM AMONG THE DEANS OF THE FACULTIES IN THE INSTITUTE OF ADVANCED STUDIES
Chosen 30 September 1967; present tenure expires 29 September 1968.
Oskar Hermann Khristian Spate, M.A., Ph.D.(Cantab.).
Chosen 30 September 1967; present tenure expires 29 September 1968.

CHOSEN FROM AMONG THE DEANS OF THE FACULTIES IN THE SCHOOL OF GENERAL STUDIES
Chosen 30 September 1967; present tenure expires 29 September 1969.
Andrew Thomas Amos Learmonth, M.A., Ph.D.(Edin.).
Chosen 30 September 1967; present tenure expires 29 September 1970.

ELECTED BY THE PROFESSORS IN THE INSTITUTE OF ADVANCED STUDIES
William Edward Hanley Stanner, M.A.(Syd.), Ph.D.(Lond.).
Elected 2 September 1965; re-elected 30 September 1966; present tenure expires 29 September 1968.

ELECTED BY THE PROFESSORS IN THE SCHOOL OF GENERAL STUDIES
Russell Lloyd Mathews, B.Com.(Melb.).
Elected 22 May 1967; present tenure expires 29 September 1968.

ELECTED BY THE NON-PROFESSORIAL ACADEMIC STAFF IN THE INSTITUTE OF ADVANCED STUDIES
Elected 30 September 1966; present tenure expires 29 September 1969.

ELECTED BY THE NON-PROFESSORIAL ACADEMIC STAFF IN THE SCHOOL OF GENERAL STUDIES
Elected 30 September 1966; present tenure expires 29 September 1969.

ELECTED BY THE RESEARCH STUDENTS
Malcolm David Orr, B.Sc., M.B., B.S.(Q'ld.).
Elected for one year from 30 September 1967; resigned 31 December 1967.

ELECTED BY THE UNDERGRADUATE STUDENTS
Donald Beattie, B.Ec.(A.N.U.).
Elected 30 September 1967; present tenure expires 29 September 1968.
ELECTED BY CONVOCATION

Elected 30 September 1966; present tenure expires 29 September 1969.

Sir Robert (Bowden) Madgwick, O.B.E., M.Ec.(Syd.), D.Phil.(Oxon.), Hon. D.Litt.(Syd.), Hon. LL.D.(Q'ld.).
Elected 30 September 1966; present tenure expires 29 September 1969.

Sir Roland Wilson, K.B.E., B.Com.(Tas.), D.Phil., Dip.Econ. and Pol.Sc. (Oxon.), Ph.D.(Chic.)
Elected 1 July 1951; re-elected 1 July 1955, 1 July 1959, 30 September 1960, 30 September 1963 and 30 September 1966; present tenure expires 29 September 1969.

Appointed to Interim Council by Governor-General 9 August 1946; elected to Council by Convocation 1 July 1951; re-elected 1 July 1953, 1 July 1957, 30 September 1960, 30 September 1963 and 30 September 1966; present tenure expires 29 September 1969.

APPOINTED BY THE COUNCIL

John Darling.

Gerardus Jozef Dusseldorp.

PRINCIPAL ACTIVITIES

We record with deep regret the deaths of Viscount Bruce of Melbourne and Sir John Cockcroft. Viscount Bruce was Chancellor of the University from August 1951 to May 1961, and his wise counsel was of great value to the University in the years of its establishment. The degree of Doctor of Laws (honoris causa) was conferred on him in 1952 and Bruce Hall was named in his honour. The University is to receive a bequest under his will and the income is to be used for ‘research relating to the application of science to industry in Australia’.

Sir John Cockcroft was Chancellor of the University from May 1961 to July 1965. His many high honours included the Order of Merit and the Nobel Prize for Physics. The degree of Doctor of Science (honoris causa) was conferred on him in 1952 during one of his visits to the University, and the Cockcroft Building in the Research School of Physical Sciences was named in his honour.

The Chancellor, Lord Florey of Adelaide, arrived in Canberra on 25 March for a visit of approximately three weeks. He presided at the Conferring of Degrees ceremony held in the Canberra Theatre on 13 April, and presented degrees to 282 graduands. The degree of Doctor of Laws (honoris causa) was conferred on Sir Douglas Copland, K.B.E., C.M.G., who was Vice-Chancellor of the University from 1948 to 1953. Professor R. D. Wright, Professor of Physiology at the University of Melbourne and a member of the Council of this University since its inception, received the degree of Doctor of Science at the ceremony. Lord Florey has been re-elected for a second two-year term as Chancellor of the University as from 31 July 1967.
Retirement of the Vice-Chancellor

Emeritus Professor Sir Leonard Huxley, K.B.E., retired from the Vice-Chancellorship of the University on 31 December. Appointed in September 1960, Sir Leonard came to the University as a distinguished scientist from the University of Adelaide. He guided the University in successful integration of the former Canberra University College and in a major program of expansion and development.

Professor Sir John Crawford

Sir John Crawford, C.B.E., Professor of Economics and Director of the Research School of Pacific Studies, was appointed Deputy Vice-Chancellor in May 1967. He assumed office as Vice-Chancellor on 1 January 1968 on the retirement of Emeritus Professor Sir Leonard Huxley.

Resignation of Professor Sir Hugh Ennor

Professor Sir Hugh Ennor resigned from the University as from 31 January to take up his appointment as Secretary of the Department of Education and Science. Sir Hugh has had a long and distinguished association with the University. Appointed Professor of Biochemistry in 1948 in the then newly established John Curtin School of Medical Research, he became Dean of the Medical School in 1953 and occupied this position up to the date of his resignation. He was appointed Deputy Vice-Chancellor in 1964 for a period of two years, during which time he retained the Deanship of the Medical School.

Appointment of the new Deputy Vice-Chancellor

Professor D. N. F. Dunbar, Head of the Department of Physics, School of General Studies, was appointed Deputy Vice-Chancellor for a period of five years as from 1 January 1968. He was appointed Professor of Physics in the former Canberra University College on 1 February 1959 and was Dean of the Faculty of Science for four years from September 1963.

Emeritus Professor Trendall to Retire

Emeritus Professor A. D. Trendall, Master of University House, has given notice of his intention to retire from the University on 31 March 1969, when he will take up an appointment as Senior Fellow in Residence at La Trobe University. Professor Trendall has given the University outstanding service as Master of University House since 1954, and as Deputy Vice-Chancellor from 1958 to 1964.

Emeritus Professors

The University has conferred the title of Emeritus Professor on Professor Sir John Crawford, C.B.E., Professor Sir Hugh Ennor, C.B.E., and Professor Sir Mark Oliphant, K.B.E.

Retirement of Mr T. M. Owen, O.B.E.

Mr T. M. Owen, Associate Registrar, will retire from the service of the University on 12 January 1968. Appointed Registrar and Secretary to the Council of the Canberra University College in 1939, he also served as Lecturer in Accountancy until 1960, when, following the association of the College with the Australian National University, he became Registrar, School of General Studies. In 1962 he was appointed Associate Registrar with responsibilities for buildings, grounds, maintenance and future planning.

Death of Mr J. F. M. Haydon

The University records with deep regret the death in Melbourne on 6 March of Mr J. F. M. Haydon at the age of 85. Mr Haydon accepted a full-time appointment as Senior Lecturer in French and German at the Canberra University College in 1931 and held that position until his retirement in 1952. The University's Arts Building is named the Haydon-Allen Building in commemoration of the first two full-time lecturers in the Canberra University College.
The Australian and British Governments are to co-operate in the building of a 150-inch optical telescope at Siding Spring Observatory, the University's astronomical field station near Coonabarabran. The telescope will be one of three or four of this size in the world and only exceeded in size by the 200-inch telescope at Mt Palomar. It is expected that the construction program will last about six years. The total capital cost of the telescope is estimated at $11,000,000 and the two governments will share the capital and recurrent costs of the telescope, which will be used equally by British and Australian astronomers. A joint policy committee has been formed to draw up final specifications for the telescope, to call for open competitive tenders and to supervise construction of the instrument.

The University has accepted a portrait of Her Majesty the Queen painted by Edward Halliday in 1955. The portrait was hung in the Pinner Schools in England on condition that it should never be sold. The Pinner Schools are closing down and the Honourable Claude Hope-Morley offered the portrait to the University on a similar understanding that it should never be sold.

The Calouste Gulbenkian Foundation has made a grant of $5,625 to the University for the purchase of pictures for hire by residents of University House. The grant provides $3,625 for the purchase of original paintings, mainly by contemporary Australian artists, and $2,000 for the purchase of contemporary graphic works, mainly by European or Asian artists.

The Chancellor and Sir Douglas Copland attended an informal function on 11 April, to celebrate the naming of the Copland Building in honour of the University's first Vice-Chancellor. The building houses the Faculty of Economics and, pending the completion of other accommodation, the Faculty of Law.

The University's Performing Arts Council has launched an appeal for $250,000 to enable a start to be made on the building of a fine arts centre on the University site. The proposed centre would provide a theatre, art workshops, and areas for the practice of the arts.

The second volume of the Australian Dictionary of Biography which was published by the Melbourne University Press in March covers the years 1788-1850 (I-Z) and contains 581 entries. The Dictionary now provides an overall picture of well over half a century of the country's formative years. The project was sponsored and largely financed by the University and has received much support from history departments in all Australian universities, historical and genealogical societies and individual scholars.

Council has made the following appointments:

John Curtin School of Medical Research—Professor F. J. Fenner as Director for seven years from 11 September 1967.
Research School of Pacific Studies—Professor O. H. K. Spate as Director for five years from 1 October 1967.

Research School of Biological Sciences—Professor D. G. Catcheside as Director from 1 October 1967 to the date of his retirement, i.e. 31 December 1972.

Research School of Chemistry—Professor A. J. Birch as Dean from 1 August 1967 for three years.

Faculties and Faculty Boards have been established within the John Curtin School of Medical Research, and the Research Schools of Physical Sciences and Biological Sciences. The Faculties comprise all academic staff at the level of research fellow and above, while the Faculty Boards comprise heads of departments or sections and members elected from the Faculties.

The section of the Canberra Community Hospital occupied by the Department of Clinical Science was officially opened by the Vice-Chancellor on 18 October. Under the headship of Professor H. M. Whyte, the Department is part of the John Curtin School of Medical Research but is accommodated on the fifth floor at the hospital. The Department undertakes clinical responsibility for the investigation and treatment of some patients and pursues clinical and laboratory research into problems relating to coronary heart disease.

A Department of Linguistics is to be established in the Research School of Pacific Studies, to take effect on the date on which an appointment is made to the recently established Chair of Linguistics. A Chair of Prehistory is also to be established in the Research School of Pacific Studies to take effect in 1969, and a Department of Prehistory is to be established to take effect on the date on which an appointment is made to the Chair. The decision to establish separate Departments of Linguistics and Prehistory in the Research School of Pacific Studies marks a formal recognition of the standing achieved by these two sections of the Department of Anthropology and Sociology.

The University established the following new chairs and made the appointments shown:

Chair of Microbiology, John Curtin School of Medical Research—to be filled.
Chair of Geochemistry in the Department of Geophysics and Geochemistry, Research School of Physical Sciences—Professor A. E. Ringwood.
Chair of Economics, Research School of Social Sciences—Professor A. W. H. Phillips.
Chair of Linguistics, Research School of Pacific Studies—to be filled.
Chairs of Biology, Research School of Biological Sciences—Dr R. O. Slatyer; Professor D. J. Carr.
Chair of Law, Faculty of Law—Mr L. R. Zines.
Chair of Biochemistry, Faculty of Science—Dr L. M. Birt.
Chair of Chemistry, Faculty of Science—Dr I. G. Ross.
Chair of Psychology, Faculty of Science—Dr K. A. Provins.
This Fund, inaugurated by the Harvard Club of Australia, and administered by the University, provides an amount of up to $A5,000 towards the support of a graduate student from any Australian university undertaking graduate study at Harvard University in any field of learning. From time to time an award will be available for a Harvard graduate to come to work at The Australian National University.

The University has awarded a Fellowship in the Creative Arts to Brisbane poet, author and critic, Rodney Hall, who is expected to take up his award early in 1968. George Dreyfus who has held a Creative Arts Fellowship since March 1967 will be in residence for part of 1968.

The University has established an undergraduate scholarship for students of aboriginal descent. The award will cover payment of scholarship emoluments based on the cost of board and lodging, and remission of fees. The scholar will be selected by the Abschol Selection Committee appointed by the Council of the University of Melbourne, subject to the final decision of this University on the student's eligibility for admission. The Students' Representative Council has accepted responsibility for other needs of the scholar.

A conference on 'Medical Practice and the Community' will be held during Second Term vacation in 1968. The conference will offer informed opinion on the form future medical practice should take if it is to meet community needs effectively. It is hoped that the conference conclusions and recommendations will help the University to assess accurately the position it should adopt concerning medical education. Among the sixty delegates who are expected to participate, will be a number from overseas. Sir Harry Wunderly, M.D., F.R.A.C.P., F.R.C.P., acted during 1967 as Executive Secretary to the committee making arrangements for the conference.

The University Health Service and the Department of Clinical Science sponsored a co-operative research project on student health in July. One hundred full-time second-year male students chosen at random were invited to participate in the study which was aimed at detecting any correlations which may exist between such factors as diet, physical activity, mental attitudes and smoking habits on the one hand and physique, muscular efficiency, blood fats and urinary hormones on the other. The investigations took the form of a personal interview, physical examination and simple functional tests of physical fitness, combined with biochemical analysis of a specimen of blood and urine collected under fasting conditions. It is believed that the survey is the first of its type to be attempted in this country. The results of the individual health assessments will be available to the participants concerned but will otherwise be confidential, and anonymity will be respected in the event of the results of the survey being published.

The Leonard French paintings, 'The Seven Days', which were acquired by the University in 1965 through the generosity of an anonymous donor, were shown by arrangement with the Department of the Interior in the Albert Hall for a week in October. They will now hang in the dining hall of Bruce Hall until the end of 1968.

On the initiative of the General Staff Association there has been established for the use of staff members a credit union which has about 800 members and assets of more than $230,000.
Developments of 1967 in Summary

THE INSTITUTE OF ADVANCED STUDIES

Research, the principal function of the Institute, has continued actively over a wide range of subjects. Several important developments occurred in 1967 and the chief ones are noted below. Most striking are the two new Research Schools of Chemistry and Biological Sciences, which are now active. The establishment of the latter School, recorded in last year's Report will further strengthen the already powerful array of biologists in Canberra.

The Research School of Chemistry and the Research School of Biological Sciences are each organised on an integrated basis, with minimum emphasis on divisions of these sciences. The policy is to have the most flexible structure possible, to promote exchange and interaction of ideas and methods and to work on borderline subjects and major fundamental problems of promise. The Research School of Chemistry expects to attack problems of exceptional difficulty experimentally or theoretically, which may also require prolonged study and be speculative in character. Likewise, the Research School of Biological Sciences is being organised to study intensively some of the basic properties of living organisms.

The year has seen the appointment of several new heads of research schools. Council has at the same time considered the question of title of Head of School and determined that, for the future, this should normally be Director. Following the choice of Professor Sir John Crawford as Vice-Chancellor to succeed Emeritus Professor Sir Leonard Huxley, the Directorship of the Research School of Pacific Studies became vacant. Professor O. H. K. Spate, Professor of Geography and Head of the Department of Geography in the School, was appointed Director and assumed office in October. When Professor Sir Hugh Ennor, Dean of the John Curtin School of Medical Research, resigned in January to become Secretary of the Government's new Department of Education and Science, Professor Courtice was appointed Acting Dean. In October, Professor F. J. Fenner was appointed Director of the School and assumed office forthwith. Professor D. G. Catcheside was appointed Director of the Research School of Biological Sciences in October. Professor P. H. Partridge announced his intention to retire, in 1968, from the Directorship of the Research School of Social Sciences.

During the year, all remaining Schools in the Institute adopted the principle of government involving a faculty and faculty board. The initiative came from the John Curtin School of Medical Research and recommendations on appropriate forms of government were made by a committee, set up by the Vice-Chancellor under the chairmanship of Mr D. M. B. Butt.

In the John Curtin School of Medical Research, Professor P. O. Bishop was appointed to the Chair of Physiology and to the headship of the Department
of Physiology, rendered vacant in 1966 by the resignation of Professor Sir John Eccles. He moved to the School in September. Professor H. M. Whyte's Department of Clinical Science moved into its permanent quarters at the Canberra Community Hospital in September. Professor F. J. Fenner resigned his headship of the Department of Microbiology and a successor is being sought. He received the Britannica Australia Award for Medicine in December. Professor F. W. E. Gibson assumed his appointment as Head of the Department of Biochemistry in January.

For the Research School of Physical Sciences, the outstanding event was the decision of the Australian and United Kingdom Governments to establish a 150-inch optical telescope which will be sited at the University's Siding Spring Observatory. Professor A. E. Ringwood was appointed to the Chair of Geochemistry in the Department of Geophysics and Geochemistry, and assumed his new position in March.

In the Research School of Social Sciences Professor A. W. H. Phillips was appointed to a second chair in the Department of Economics. He has special interests in the econometric approach to economic affairs and also in the economy of Communist China. The latter is an example of the increasing extension of the research interests of the School to areas external to Australia, upon which chief attention has been focussed in the past.

In the Research School of Pacific Studies Professor H. N. Bull arrived in June to take up his appointment in the Department of International Relations. Professor C. P. FitzGerald, who retired from the Department of Far Eastern History, is remaining in the School as a Visiting Fellow in the Department of International Relations. Professor Wang Gungwu was appointed to succeed him as Head of the Department of Far Eastern History. The formation of three new departments, by fission from existing ones, has been approved; Environmental Studies will incorporate work now being done within the Department of Geography on biogeography and geomorphology, while Linguistics and Prehistory will separate from the Department of Anthropology and Sociology.

The main building for the Research School of Chemistry was completed in June. Professors A. J. Birch and D. P. Craig arrived in Canberra about the middle of the year. By the end of the year twenty-four academic staff and thirteen research students had arrived and begun work.

In the Research School of Biological Sciences, two of the three foundation Chairs of Biology, established by Council at the end of 1966, were filled. Professor D. J. Carr was appointed to one, to develop research in developmental and cellular biology; he arrived in January 1968. Dr R. O. Slatyer was appointed to another Chair, to develop research in environmental and population biology; he took up his appointment in December. The major part of the Department of Genetics, formerly in the John Curtin School of Medical Research, became part of the Research School of Biological Sciences in October, when its Head became Director of the School.

The total number of academic staff of research fellow and upwards in the Institute of Advanced Studies at the end of the year was 303, compared with 269 at the end of 1966. Also, many visiting fellows and honorary fellows, several of considerable seniority, spent various periods of time here during the
year and contributed substantially to the work of the Institute. Such visitors often initiate research so far unrepresented in the Institute and so catalyse new developments. Not infrequently the Institute wishes to continue to develop the work so started. It is clear that the program of visiting fellowships serves many valuable functions and it is most important that this activity should continue. A new category of temporary appointment, the Postgraduate Fellowship, was instituted during the year.

At the end of 1967 there were 273 full-time students working in the Institute of Advanced Studies as candidates for the degree of Doctor of Philosophy, another seventy-one working in the School of General Studies and two in the Computer Centre, making a total of 346 degree of Doctor of Philosophy students in the University as a whole. Of these students, 190 were from other countries. During the year, eighty-four new scholarships were taken up in the six research schools. At the 1967 Conferring of Degrees ceremony, fifty-three students of the Institute of Advanced Studies received the degree of Doctor of Philosophy, together with thirteen who had pursued their courses in the School of General Studies.

THE SCHOOL OF GENERAL STUDIES

For the universities in New South Wales and the Australian Capital Territory 1967 was expected to be the year of the ‘Wyndham Gap’, a year of reduced intake and a year for stocktaking and reappraisal. However, the intake was not reduced in the University or in the universities of the State of New South Wales. While some reappraisal did go on in the School of General Studies it was far from a leisurely activity since staff was fully committed as is indicated by the fact that the student/staff ratio was 9.7 rather than the 8.8 which the Australian Universities Commission had set as a desirable figure for 1967.

That the 1967 enrolment of new students was not entirely due to a large number of students repeating the New South Wales Leaving Certificate in 1966 is indicated by the fact that there were 728 new part-time students in this year compared with 481 in 1966 and that in 1967 new part-time students were again more numerous than new full-time students whose numbers were down from 688 to 526, as a direct result, of course, of the introduction of the extended secondary course. It is believed that the part-time increase was in no small measure due to the more liberal policy adopted by the Commonwealth Public Service with respect to reimbursement of fees for its employees. Unfortunately there is some evidence to suggest that this policy may be bringing to the University an increased number of very poorly qualified students and this suggests that in the interests of efficiency and quality, the University must safeguard its admission standards for these students just as for those entering directly from matriculation examinations in the several States.

The School of General Studies has again been very conscious of undergraduate failure rates. A school-wide study of these has shown that pass rates of subject enrolments overall has remained remarkably stable from 1962 through 1966 at 76% plus or minus only about one half of 1%. It is not, of course, claimed that this is satisfactory and many steps are being taken in an effort to modify the situation. In many departments, and in the Faculty of Science as a whole, syllabuses are being overhauled and course structures modified, many departments have reappraised and some have varied their examination arrangements.
and requirements particularly with a view to encouraging a more even distribution of work effort throughout the year. Steps have been taken to co-ordinate the due dates for examinations, essays and other assignments. In addition, the University has given its approval to, and is now taking steps to launch, a detailed study of its part-time students—their interests, motives, ambitions, needs and difficulties as well as their capacities and achievements. Also under way is an active study of admission levels, tests and procedures. Further, under the direction of Associate Professor P. Pentony of the Department of Psychology and with financial assistance from the Australian Research Grants Committee, an experiment is being conducted in the use of group methods for attitude change among failing students. Preliminary results obtained in 1967 are promising. It is hoped that through such studies the University will come to understand its student failures in a way it is unable to do at present.

One of the most sensitive areas with respect to failure has been the Faculty of Economics. During 1967 with co-operation from all departments in the Faculty an investigation was made, designed to throw light on the causes of failure. This investigation has suggested that the high failure rates in the Faculty of Economics are due to: (a) inadequate admission standards obtaining generally throughout the University; (b) a higher proportion of students with weak matriculation records enrolling in the Faculty of Economics than in other faculties; and (c) an apparent lack of motivation on the part of some students (especially younger part-time students). This investigation failed to find any evidence that the high failure rates are due to ineffective teaching or to the adoption of unreasonably high examination standards.

The distribution of the student body amongst faculties continues to be of great interest in this University, as it is also elsewhere. The Universities Grants Commission of the United Kingdom observed in its Annual Survey published in January 1968 that 'it was clear from recent studies . . . that the pressure of demand from the schools for places in science and technology could not be expected to increase much if at all . . . the general picture was one of levelling-off of the science-based entry. On the other hand, the pressure of demand for places in Arts and Social Studies, already relatively heavy, would continue to increase'. (Page 9.) This somewhat unexpected trend appears also in Australia though whether for the same reasons is not known, and certainly in this University the rate of growth of the Faculty of Arts outstrips considerably that of other faculties. The evidence here would not suggest that science-based enrolments have yet begun to level-off but it is notable that in 1967 undergraduate enrolments were just about equal to those of 1966 in all faculties except arts and that arts enrolments even in this 'off' year climbed 10.5%. This trend will be watched with interest in the more 'normal' enrolments for 1968 because a changing distribution amongst faculties has important implications for planning.

These trends in students' interests are certainly related, though probably in very complex ways, to the availability of staff; some disciplines remain undermanned though staff recruitment generally was better in 1967. The principal areas of difficulty were again Russian, economics, mathematics and geography. During the year the University lost Miss T. Cizova, Senior Lecturer in Russian, to a new chair of Russian at the University of New South Wales. It has also lost some other valued senior staff members to higher ranks in other Australian universities and to more attractive positions overseas. On the whole, how-
ever, gains have probably outweighed losses in 1967. The School is very pleased to record that its new Department of Biochemistry came into existence with the arrival of Professor L. M. Birt from the University of Sheffield. Undergraduate courses in Biochemistry will be taught for the first time in 1968. The University has also been fortunate in securing the services of Dr I. G. Ross, Reader in Chemistry at the University of Sydney, as a second Professor of Chemistry, and of Dr K. A. Provins, Reader in Psychology at the University of Adelaide, as a second Professor of Psychology. A further professorial appointment was that of Mr L. R. Zines, Reader in Law, to a third professorship in that Faculty. A reader was appointed in Statistics while promotions to reader occurred in Applied Mathematics, History, Philosophy, Pure Mathematics, Accounting and Public Finance, Economics, Law, Asian Civilization and Geology. At the end of the year Professor D. N. F. Dunbar, Professor of Physics in the School was designated full-time Deputy Vice-Chancellor and steps will be taken in 1968 to make an appointment to the headship of the Department of Physics.

Minor restrictions on enrolment may be necessary in 1968 in several departments and for varying reasons: in Political Science for mainly academic reasons; in History for reasons of a short-term staff shortage; in Psychology for inadequate laboratory facilities pending the construction of a new building.

No new building became available to the School of General Studies during 1967 but it was an active building year for the School. The General Studies Building of the University Library was brought very near completion and will be occupied early in 1968. In February-March 1968 the Departments of Botany and Forestry will each occupy new buildings designed for their particular purposes. An extension of the Arts-Economics complex of buildings, a new Law Building and John XXIII College were well advanced and should be available for occupation before 1969. Construction of Ursula College also advanced very satisfactorily and should have places available for 150 women students by the beginning of the First Term 1968. The School of General Studies is very pleased to record the appointment of Sister Angela Cooney as first Principal of the College and has assured her, her staff and college members, of a warm welcome to full participation in School activities.

Research continued at high levels of activity and quality in the School of General Studies during 1967, though support from the Australian Research Grants Committee was rather less than satisfactory and much less than had been hoped. Grants were made to thirteen staff members to a total value of $84,159. This is to be compared with $348,812 sought and grants totalling $89,938 made to eight staff members for 1967. The nature and extent of these awards serves to emphasise the important need for the Australian Universities Commission to continue its financial support of a high level of general research and research training in the School of General Studies.

Another pleasing feature of the research activity of the School during the year was that of the 468 degree of Doctor of Philosophy students in the University 108 were registered through and working in departments of the School. Of these, thirteen had their degrees conferred in 1967 and thirty-eight were new enrolments thus indicating a steady upward trend in this activity. The number of masters’ degrees students also rose by 36% from 178 in 1966 to 243. Since the lively intellectual appeal of a university department, both for its staff and its undergraduates, derives very largely from its research engagement the increasing research stature of the School of General Studies is very satisfying.
The National Undergraduate Scholarships, the Oriental Studies Scholarships, the Final Honours Year Scholarships as well as Commonwealth Scholarships and sundry endowed scholarships continue to make a very significant contribution to the nature and quality of the work done in School departments. If this flow of promising students to departments actively pursuing research can be maintained and developed there can be little doubt but that the School will contribute notably towards the Australian National University being considered in all of its activities, among the best in the world.

The first postgraduate seminars in law to be held in Canberra were organised during the year by the Faculty of Law in co-operation with the Law Society of the Australian Capital Territory. These dealt with restrictive trade practices, torts and company law. It was also announced that members of the Faculty of Law are to be given an active role in formulating law reform for the Australian Capital Territory. The Faculty of Arts noted an increasing tendency for staff members to take part at least of their study leave in Australia—often in the Institute of Advanced Studies—to advance appropriate research and authorship. These and other pointers serve to emphasise the rapidly increasing maturity and independence of Australian universities generally but of this University in particular.

GENERAL UNIVERSITY ACTIVITIES

The Department of Adult Education provided fifty-seven classes, ten more than in 1966, in thirty subjects. Enrolments totalled 1,771, a small increase over the corresponding figure for 1966. Though more classes were provided, enrolments in a number of these were restricted but the number of sessions in such classes were increased, providing for more intensive work. Of the fifty-seven classes, two were of sixty sessions each, three of forty sessions, twenty-four of thirty sessions, ten of twenty sessions and eighteen of ten sessions each, a total of 1,340 two-hour lecture-discussion periods.

Six schools or seminars were organised with a total enrolment of 408. The Intensive Japanese Language Course conducted in conjunction with the Department of Japanese for over three weeks in January enrolled only twenty-three drawn from every State; it proved so successful that by late November there were over 100 applications from all over Australia for the fifty-four places in the course to be run in January 1968. The seminar on University Teaching held in February was attended by 182 members of the academic staff and members of other educational bodies in Canberra. The seminar on Historic Preservation in Australia held in August had 117 enrolments from every State. Two of the other schools attracted enrolments from southern and mid-New South Wales. Another seminar on the socio-economic implications of scientific research, designed to bring a selected group of senior public servants and scientists together for a series of discussions on this topic was spread over seven weekly meetings in Third Term.

No significant change from that reported in 1966 in the pattern of educational background of students was observable in 1967, except that there was a slightly higher proportion of those with tertiary educational qualifications.

A working party, formed from members of a seminar on ‘An Independent Education Authority for the A.C.T.?’ conducted in 1966 by this Department,
was convened by it and met frequently in 1967 in committee and plenary sessions under the chairmanship of Sir George Currie. In December its Report on 'An Independent Education Authority for the A.C.T.' was published by this Department and widely circulated.

The position of Director of the Department has been held in abeyance since 1966 pending an announcement of the Government's policy towards adult education in universities in Australia. It is expected that it will be re-advertised in early 1968.

**Drama Committee**

The Committee met four times during the year. It noted with approval the increased interest now being shown at all levels in the fostering of drama within the University. Together with the Performing Arts Council, a student body, it has actively considered the problem of organising and directing theatrical activity on the campus; it has also been represented on a Committee to make the preliminary plans for a Performing Arts Centre in the University.

Alterations and extensions to the Childers Street Hall, sought by the Committee for some time, have been virtually completed. Facilities for staging plays have now been considerably improved.

Additions were made throughout the year to lighting and sound equipment, stage furnishings, scenery and costumes. Financial assistance for productions was extended to the Theatre Group and the Department of German.

**Public Lectures**

The following public lectures were given in the University during 1967:

- 29 March . Professor Li Chi . 'Racial History of the Chinese People'
- 18 April . Professor J. M. Saniel . 'Philippine-Japan Relations and Japan's South-east Asian Policy'
- 10 May . Emeritus Professor H. D. F. Kitto . 'The Significance of the Gods in Greek Tragedy'
- 11 July . Professor R. L. F. Boyd . 'Research in Space'
- 18 July . Professor B. O. Unbegaun . 'Modern Standard Russian: A Naturalised Alien'
- 27 July . Dr D. E. Butler . 'Psephology—The Study of Elections'
- 12 September . Professor K. Sinclair . 'Landscapes of the Mind: Aspects of the New Zealand Imagination'
- 21 September . Professor D. Hay . 'The Italian Picture of Renaissance Italy'
- 28 September . Dr D. E. Butler . 'Political Television'
- 3 October . Professor P. M. Sheppard, F.R.S. . 'Protective Colouration'
- 18 October . Professor J. W. de Jong . 'Buddha’s Word in China'
- 31 October . Professor W. A. Weber . 'A Plant Geographer in the Galapagos Islands'

**Australian National University Press**

The Press is the publishing department of the University administering the University imprint and publishing fund. General responsibility for and control of the Press are vested in the Vice-Chancellor.

In November the first Director, Mr W. A. Wood, formerly Assistant Director of the University of Chicago Press, arrived to take up his appointment. The Publications Officer visited scholarly publishers, printers, and distributors in New Zealand, North America, United Kingdom, Europe, India, Hong Kong,
and Singapore in the course of a five-month business trip. A highlight was attendance at the annual meeting of the Association of American University Presses in Toronto.

Following the Director's appointment, the former Publications Committee is to be replaced by an Editorial Committee to supervise editorial policy. Like the former Committee it will consist mainly of members of the academic staff.

The Press continued its active role in the affairs of the Association of Australian University Presses.


Eighteen new titles are at present in production, fourteen of which are scheduled for publication in the first half of 1968. Two new series will be launched in this period: the Pacific History series, under the general editorship of Mr H. E. Maude, and the Introduction to Systematic Geomorphology series, under the general editorship of Mr J. N. Jennings.

An additional six new manuscripts are in course of preparation and seven others have been accepted for publication in 1968. Twenty-three more are under consideration.

The Press has pursued an active policy on overseas sales and has sold world rights for one title, United Kingdom and European rights for five titles, North American rights for two, and South-East Asian rights for one. Those books for which rights have not been sold—mainly titles wholly Australian in interest—have also been placed with United Kingdom and United States of America distributors.

During the year the Press continued to help with publications from the different departments of the University, advising and assisting with matters of editing, design and production. It is distributing twenty-eight departmental titles (including nine new ones in 1967), the *New Guinea Research Bulletin* and the *Bulletin of Indonesian Economic Studies*, and negotiated sales in South-East Asia and in the United Kingdom and Europe, respectively, for two such publications.

**SITE AND BUILDINGS**

A list of buildings completed, under construction and in the planning stages during the year is included in the Building Program Summary which appears later in this Report.
All major buildings approved for the 1967-69 triennium are either under construction or in the detailed planning stages. The H. C. Coombs Lecture Theatre, now approaching completion, was the last building of the 1964-66 program.

The Research School of Chemistry was completed and occupied during the year. Stage II of the building which included the library/lecture theatre block, formed part of the 1967-69 program and the building contract for stage I provided an option for extension of the contract to encompass the stage II works—an arrangement which has allowed early completion of stage II.

The A.C.T. Electricity Authority has required the University to accept supply at high voltage and at one supply point only. This requirement, the general growth in the developed area of the site and the desire and need to remove unsightly overhead distribution lines and poles, led to close co-operation between the Electricity Authority and the University during the year in the design of a co-ordinated system of electricity distribution based on a ring main concept which meets the needs of all users, including the necessary high degree of reliability for the homopolar generator in the Research School of Physical Sciences. It will be possible for all major groups of buildings on the site to have an alternative supply route giving a high degree of protection against any long interruption to supply.

A major extension of the high temperature hot water system from No. 2 Boiler House was made during the year to supply the Departments of Forestry, Botany and the affiliated colleges. An extension to the east is being planned to supply the new postgraduate hall in McCoy Circuit, construction of which is planned to start in 1968.

The grouted stone channel and turfing of the bed of Sullivans Creek, begun as an experiment in 1966, proved successful and the treatment has been carried throughout the developed length of the creek providing a pleasant and serviceable finish. There remains an underdeveloped section of creek below Canberry Bridge.

During the year University Avenue was closed at its junction with Ellery Circuit to reduce a noise nuisance which was affecting users of the Haydon-Allen Building and to eliminate the hazard to the large number of pedestrians moving between the Haydon-Allen Building, the Copland Building and the General Studies Building of the University Library. An alternative entrance was provided by building North Road linking University Avenue with Boldrewood Street. The problems of traffic and parking on the site are to be the subject of a thorough and extensive survey during 1968 in association with the National Capital Development Commission.

Construction of Ursula College and John XXIII College on sites between Daley Road and Clunies Ross Street is well advanced. Council approved sketch plans of Burgmann College at its meeting in September but working drawings have not yet been presented for final approval by Council.

ENROLMENTS

One hundred and twenty-six new research students were enrolled by the Institute of Advanced Studies in 1967 for courses of higher research. (The new research students comprise some fifty-eight Australians, twenty students from
Britain, ten students from New Zealand, fourteen students from the United States of America, thirteen students from Asian countries and eleven students from other countries.)

There were 1,035 new students enrolled in the School of General Studies in 1967, compared with 1,062 in 1966. The total number of students enrolled in the School was 2,961, compared with 2,750 in 1966; of these 1,405 were full-time students and 1,556 were part-time students. Students enrolled in 1967 for the degree of master numbered 243 (178 in 1966). The number of enrolments for bachelor's degrees was 2,653 and there were 147 (109 in 1966) students enrolled for miscellaneous subjects. Detailed statistics are given later in this Report.

DEGREES AWARDED


Professor F. J. Fenner, F.A.A., F.R.S., Director of the John Curtin School of Medical Research.

Professor O. H. K. Spate, Director of the Research School of Pacific Studies.
Professor D. G. Catcheside, F.A.A., F.R.S.,
Director of the Research School of
Biological Sciences.

Professor A. J. Birch, F.A.A., F.R.S., Head of the
Research School of Chemistry.

The Chancellor conferring the degree of Doctor of
Science on Professor R. D. Wright, Professor of
Physiology at the University of Melbourne and a
member of this University’s governing body.

* Photo by courtesy Canberra Times.
The Vice-Chancellor with the Japanese Prime Minister and Mrs Sato on their arrival at the University.

* Photo by courtesy Canberra Times.

The High Commissioner for Malaysia, and the Vice-Chancellor, with the carved dragon which was presented by the Government of Malaysia for the new Forestry Building at the University.
Sir Douglas Copland, K.B.E., C.M.G., the University's first Vice-Chancellor, speaking at the ceremony at which the building to house the Faculty of Economics was named 'Copland Building'. Behind Sir Douglas are Professor R. L. Mathews (left) and the Chancellor.

*Photo by courtesy Canberra Times.*

University House provides hospitality for distinguished visitors to the University as well as accommodation and the facilities of a faculty club for research students and members of the academic staff.
The R. G. Menzies Building of the University Library.
Sydney sculptor Herbert Flugelman designed the fountains outside Bruce Hall.

The Zoology Building designed by Melbourne architect Robin Boyd.
An aerial view of the University site looking north, showing the Oriental Studies Building, the twin hexagons of the H. C. Coombs Building, the R. G. Menzies Building of the University Library and University House.
The Research School of Chemistry. The library and lecture theatre block is connected to the main building by a walkway at first-floor level.

The Geology Building is one of a group of buildings of similar design in the science complex, University Avenue.
The degree of Master of Arts was conferred on: N. H. Bong (Pure Mathematics, School of General Studies); P. M. Brennan (Classics); Naomi J. Caiden (Political Science, School of General Studies); Katarina Clark (Russian); Margaret O. Hallo (Classics); Rosemary L. Lawson (History, School of General Studies); A. Majeed (Pure Mathematics, School of General Studies); Cecily C. Neil (Sociology); Brenda M. Niall (English); Jillian I. Roe (History, School of General Studies); A. J. Strickland (Sociology); P. D. Thompson (History, School of General Studies).


The degree of Bachelor of Economics with Honours was conferred on: C. F. Allum, D. Beattie, H. G. Brennan, H. N. Johnston, P. L. Swan.

The degree of Master of Economics was conferred on: K. J. Cosgrove (Political Science, School of General Studies); Kyoko Sheridan (Economic History, School of General Studies).


The degree of Bachelor of Laws with Honours was conferred on: J. R. Colquhoun, R. S. Geddes, T. J. Higgins, J. L. Merity, J. B. Thynne.

The degree of Bachelor of Arts (Oriental Studies) was conferred on: C. L. Forman, Helen James, L. Kazar, C. G. Manning, N. Murray, Leilani P. Musgrave, R. G. Parker, J. E. Ramage.

The degree of Bachelor of Arts (Oriental Studies) with Honours was conferred on: G. L. Alliband, Sally M. Borthwick, Jennifer Brierly, R. C. B. Brown, Gretchen P. Evans, Barbara L. Hanon, C. I. Kiriloff, T. D. Wilson.


The degree of Bachelor of Science with Honours was conferred on: M. J. Carr, O. Cartledge, Anne S. Cawsey, J. R. Christie, R. S. Howard, K. R. Hutchison, M. K. McIntosh, G. S. Marchant, M. Marshall, A. C. Matheson, S. D. O'Connor, D. N. Richards, J. B. Shineberg, J. C. Slade, N. H. Williams, Prapin Wilairat, Prapon Wilairat.

The degree of Bachelor of Science (Forestry) with Honours, was conferred on: D. S. Barwick, D. B. Boomsma, P. C. Bowyer, J. Davidson, R. L. Dundon, B. S. H. Hodgson, J. S. Meakins, Pham Hong Chuong, R. Sands, G. R. Siemon, T. A. Vowles.

The degree of Master of Science was conferred on: Philippa A. Andrew (Zoology); M. I. H. Brooker (Botany); A. B. Chia (Statistics, School of General Studies); M. R. Cook (Psychology); Patricia J. Gaudry (Mathematics, Institute of Advanced Studies); M. P. Henry (Chemistry); N. L. R. King (Chemistry); P. J. Jones (Geology); J. P. Rayner (Physics); R. K. Solly (Chemistry); Lalitha Subrahmanyan (Chemistry); J. F. Tilley (Diffusion Research Unit).

The degree of Doctor of Philosophy was conferred on: E. M. Andrews (History, Institute of Advanced Studies); B. J. Brockwell (Statistics, Institute of Advanced Studies); J. W. Bunting (Medical Chemistry); J. G. Caiger (Far Eastern History); E. N. Cain (Chemistry); T. N. Caine (Geography, Institute of Advanced Studies); J. G. Catterall (Medical Chemistry); B. W. Chappell (Geology); A. M. Clarke (Psychology); P. J. Cossey (Mathematics, Institute of Advanced Studies); P. J. Crawford (Chemistry); A. B. Davidson (History, School of General Studies); Marion M. M. P. de Lemos (Psychology); I. Douglas (Geography, Institute of Advanced Studies); P. J. Drake (Economics, Research School of Pacific Studies); C. T. Edwards (Economics, Research School of Pacific Studies); R. V. Foster (Medical Chemistry); P. France (Pacific History); T. M. Gagen (Mathematics, Institute of Advanced Studies); D. J. Garwes (Microbiology); E. Gowlan (Experimental Pathology); J. S. Hagan (History, Institute of Advanced Studies); W. M. Hale (History, Institute of Advanced Studies); D. L. Hilliard (Pacific History); A. Howe (Mathematics, Institute of Advanced Studies); W. J. Hudson (International Relations); Y. Kim (Demography); R. Krishna (Law, Institute of Advanced Studies); N. D. Liem (Anthropology and Sociology); J. K. Ling (Zoology); L. W. Lloyd (Law, Institute of Advanced Studies); A. I. McIntosh (Electron and Ion Diffusion Unit); D. J. Mallock (Philosophy, Institute of Advanced Studies); J. R. Mapstone (Demography); I. D. Martin (Geophysics and Geochemistry); C. D. Morley (Geography, Institute of Advanced Studies); P. Ninh-van-Tu (Economics, Research School of Pacific Studies); R. J. North (Experimental Pathology); M. N. Paddon-Row (Medical Chemistry); D. G. Pederson (Botany); R. K. Pengilley (Zoology); Png Poh-Seng (Far Eastern History); J. M. Poate (Nuclear Physics); N. Rutherford (Pacific History); W. H. Sawyer (Physical Biochemistry); I. G. Sayce (Medical Chemistry); Sondra J. Silverman (Political Science, School of General Studies); J. Smith (Medical Chemistry); Lindsey F. Smith (Astronomy); Soebardi (Indonesian Languages and Literatures); J. Steiner (Geology); N. N. Tait (Experimental Pathology); J. K. N. Tomkins (Microbiology); Marie L. Tonnet
(Chemistry); A. Turek (Geophysics and Geochemistry); Marie L. Uhr (Bi­
chemistry); P. H. M. Van Den Dungen (History, Institute of Advanced
Studies); C. H. H. Wake (Pacific History); Wan Fook Sun (Mathematics,
Institute of Advanced Studies); C. W. Weaver (Geophysics and Geochemistry);
Betty L. Webster (Astronomy); J. S. Whitelaw (Geography, Institute of
Advanced Studies); Patricia A. Woolley (Zoology); Yong Chin Fatt (History,
School of General Studies); F. Yusuf (Demography).

The degree of Doctor of Science was conferred on: R. D. Wright.

HONORARY DEGREE
The degree of Doctor of Laws (honoris causa) was conferred on: Sir Douglas
Copland, K.B.E., C.M.G., M.A.(N.Z.), Litt.D.(Melb.), on the ground of
distinguished eminence in public service.

PRIZEWINNERS
The Alliance Francaise de Canberra Prize FRENCH I: Douglas Roy Fraser
FRENCH II: Deborah Jean Wilkins FRENCH III: Judith Allison
King FRENCH IV: Jane Philippa Gilmour
The Australian Capital Territory Bar Association Prize Stephen Lewis
Walmsley
The Australian Institute of Physics Prize Anthony Donald Weir
The Australian Psychological Society Prize Not awarded
The Australian Society of Accountants' Prize ACCOUNTING I: Philida
Marjorie Sturgiss ACCOUNTING II: Anthony Van Vugt
ACCOUNTING III: Simon Allen Berkeley Fitzhardinge
Canberra Association of University Women Prize Virginia Gail Lee
The Canberra Goethe Society GERMAN I: Kay Britcliffe GERMAN II: Hein­
rich Stefanik GERMAN III: Janet Elizabeth Price GERMAN
IV: Elizabeth Sawer
The Commonwealth Forestry Bureau Book Prize Dennis Ray Mutton
The C.S.R. Chemicals Prize Ian William McCay
The Economic Society Prizes ECONOMICS I: John Charles Ross ECONOMICS
II: Edward Cyril Bloomfield ECONOMICS III: Geoffrey Francis
Carmody
The Geological Society of Australia Prize Not awarded
The George Knowles Memorial Prize James William Constance
The Institute Prize for Economic History Graham Watson Walker
The Lady Isaacs’ Prize Kenneth Scott Oldmeadow and Andrew Franklin Pike
The Law Society Prize in Contracts John Henry Pascoe
The Leslie Holdsworth Allen Memorial Prize Not awarded
The Marie Halford Memorial Prize Ann Patricia Duffy
Permanent Trustee Company (Canberra) Limited Prizes TRUSTS: James
William Constance PROPERTY II: James William Constance
Priscilla Fairfield Bok Prize Agnes Jerfy

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The Professional Officers' Association Prizes

PHYSICAL SCIENCES: Julian Maurice Brown

BIOLOGICAL SCIENCES: Carolyn Anne Furlonger

The Pure Mathematics Prizes

PURE MATHEMATICS IV: John Roderick McMullen and Christopher James Smyth
PURE MATHEMATICS III: Edward Norman Dancer

Rachel Dorph Memorial Prize  Ann Patricia Duffy

The Ramsay Prize  Marilyn Bernice Renfree

The Royal Australian Chemical Institute Prize  Bogdan Edward Chapman and Garry Charles Morris

The Royal Institute of Public Administration Prize  Julie Ann O'Brien

The Schlich Memorial Trust Prize  Noel Graham Ashcroft

The Shell Company Prizes

ECONOMICS: Philida Marjorie Sturgiss
SCIENCE: Edward Norman Dancer

The Statistical Society of Canberra Prize  Richard Lewis Tweedie

The Supreme Court Judges' Prize  Bruce George Donald

The Tillyard Prize  Bruce George Donald

The Timbid Utilization Prize  Paul Allen Jenkins

The United Commercial Travellers' Association Prize  Desmond John Ball

The University Prizes

Kenneth George Boston: HONOURS SCHOOL OF JAPANESE
Jane Philippa Gilmour: HONOURS SCHOOL OF FRENCH
John Francis Haasz: HONOURS SCHOOL OF THEORETICAL PHYSICS
John Roderick McMullen: HONOURS SCHOOL OF PURE MATHEMATICS
Robert John Moss: HONOURS SCHOOL OF HISTORY
Ian Macleod Proudfoot: HONOURS SCHOOL OF INDONESIAN

The W. B. Clarke Prize in Geology  Gavin Charles Young

STAFF

The total full-time staff (excluding research scholars) as at 31 July 1967 was 2,101, representing a net increase of 173 over the corresponding figure at 31 July 1966, namely 1,928.

The academic staff increased by thirty-five (6%) from 604 to 639, and the non-academic staff increased by 138 (10%) from 1,324 to 1,462.

THE INSTITUTE OF ADVANCED STUDIES

Dr W. L. F. Armarego, Senior Fellow in Medical Chemistry, formerly Fellow.

Professor A. J. Birch, Professor of Organic Chemistry and Dean of Research School of Chemistry, formerly Professor of Organic Chemistry, University of Manchester.

Professor P. O. Bishop, Professor and Head of Department of Physiology, formerly Professor and Head of Department of Physiology, University of Sydney.

Mr J. H. Brimmell, Senior Research Fellow in International Relations, formerly of the Foreign Office, London.

Staff Numbers

Senior Staff Appointments and Promotions
Professor H. N. Bull, Professor of International Relations, formerly Director, Arms Control and Disarmament Research Unit, Foreign Office, London.

Professor D. P. Craig, Professor of Physical and Theoretical Chemistry, formerly Professor of Chemistry, University College, University of London.

Dr J. R. Dunstone, Senior Fellow in Physical Biochemistry, formerly Fellow.

Mr E. K. Fisk, Professorial Fellow in Economics, Research School of Pacific Studies, formerly Senior Fellow.

Dr A. J. Gibbs, Senior Research Fellow in Microbiology, formerly Research Fellow.

Dr W. N. Gunson, Senior Research Fellow in Pacific History, formerly Research Fellow.

Mr P. F. Harrison, Senior Research Fellow in the Urban Research Unit, formerly Director of Town Planning, National Capital Development Commission, Canberra.

Dr R. L. Kirk, Senior Fellow in Clinical Science, formerly Chief, Human Genetics Unit, World Health Organization, Geneva.

Dr L. G. Kovács, Senior Fellow in Mathematics, formerly Fellow.

Dr K. Kumar, Senior Fellow in Theoretical Physics, formerly Fellow.

Dr W. R. Levick, Professorial Fellow in Physiology, formerly Senior Lecturer in Physiology, University of Sydney.

Dr G. J. R. Linge, Senior Fellow in Geography, formerly Fellow.

Dr H. M. Lo, Senior Fellow in Far Eastern History, formerly Senior Research Fellow.

Dr P. Loveday, Senior Fellow in Political Science, formerly Reader in Politics, University of Adelaide.

Dr D. N. McVean, Senior Fellow in Geography, formerly Fellow.

Dr S. Mukherjee, Senior Research Fellow in Theoretical Physics, formerly Associate Professor, Theoretical Physics Division, Saha Institute of Nuclear Physics.

Dr R. H. Myers, Senior Research Fellow in Economics, Research School of Pacific Studies, formerly Research Fellow.

Dr W. H. Pearson, Senior Research Fellow in Pacific History, formerly Senior Lecturer in English, University of Auckland.

Professor A. W. H. Phillips, Professor of Economics, Research School of Social Sciences, formerly Tooke Professor (Economic Science and Statistics), London School of Economics and Political Science, University of London.

Dr I. de Rachewiltz, Senior Fellow in Far Eastern History, formerly Fellow.

Mr R. W. Rickards, Senior Fellow in the Research School of Chemistry, formerly Fellow.

Professor A. E. Ringwood, Professor of Geochemistry, formerly Personal Professor.

Dr A. M. Sargeson, Senior Fellow in the Research School of Chemistry, formerly Fellow.
Professor R. O. Slatyer, Professor of Environmental and Population Biology, formerly Chief Research Scientist, Division of Land Research, Commonwealth Scientific and Industrial Research Organization.
Dr D. Vere-Jones, Senior Fellow in Statistics, formerly Fellow.
Mr D. J. Whalan, Senior Fellow in Law, formerly Fellow.
Dr S. Yamamuro, Senior Fellow in Mathematics, formerly Senior Research Fellow.

THE SCHOOL OF GENERAL STUDIES
Professor L. M. Birt, Professor of Biochemistry, formerly Senior Lecturer in Biochemistry, University of Sheffield.
Mr E. L. Burge, Senior Lecturer in Classics, formerly Lecturer.
Dr J. C. Burns, Reader in Applied Mathematics, formerly Senior Lecturer.
Dr C. Bryant, Senior Lecturer in Zoology, formerly Lecturer.
Dr J. D. Frodsham, Senior Lecturer in Chinese, formerly Senior Lecturer in Chinese, University of Adelaide.
Dr E. C. Fry, Reader in History, formerly Senior Lecturer.
Mrs D. Green, Senior Lecturer in English, formerly Lecturer.
Mr C. D. Hamilton, Senior Lecturer in Forestry, formerly Lecturer.
Dr V. A. P. Harris, Senior Lecturer in Zoology, formerly Lecturer.
Mr W. R. C. Jay, Reader in Accounting and Public Finance, formerly Senior Lecturer.
Dr B. E. Kent, Senior Lecturer in History, formerly Lecturer.
Dr M. F. Newman, Reader in Pure Mathematics, formerly Senior Lecturer.
Dr S. A. A. Rizvi, Reader in Asian Civilization, formerly Senior Lecturer.
Dr R. D. Sandeman, Senior Lecturer in Physics, formerly Lecturer.
Dr D. W. Smith, Reader in Law, formerly Senior Lecturer.
Dr Sutjipto Wirjosuparto, Senior Lecturer in Asian Civilization, formerly Professor of Archaeology and Cultural History, University of Indonesia.
Dr R. Tisdell, Reader in Economics, formerly Senior Lecturer.
Dr A. J. R. White, Reader in Geology, formerly Senior Lecturer.
Professor C. M. Williams, Professor of History, formerly Professor of History, University of New England.
Mr K. L. Williams, Senior Lecturer in Geology, formerly Lecturer.
Mr P. Winer, Senior Lecturer in Statistics, formerly Lecturer.
Mr L. R. Zines, Professor of Law, formerly Reader.

THE INSTITUTE OF ADVANCED STUDIES
Dr E. H. Mercer, Professorial Fellow in the Electron Microscope Unit, on appointment to the San Francisco Medical Centre, University of California.
Dr J. A. Models, Professorial Fellow in International Relations, on appointment as Professor of Political Science, University of Washington.
Dr V. Subramaniam, Senior Research Fellow in Political Science, on appointment as Professor of Public Administration, Indian Institute of Public Administration, New Delhi.
Dr B. Westerlund, Reader in Astronomy, on appointment as Professor of Astronomy, University of Arizona.
THF SCHOOL OF GENERAL STUDIES
Dr N. G. Cain, Senior Lecturer in Economic History, on appointment as Fellow in Economic History, Institute of Advanced Studies.

Miss T. Cizova, Senior Lecturer in Russian, on appointment to the Chair of Russian, University of New South Wales.

Dr R. D. Hughes, Senior Lecturer in Zoology, on appointment to the Commonwealth Scientific and Industrial Research Organization.

Dr G. Schlesinger, Reader in Philosophy, on appointment to the University of North Carolina.

Mr A. H. Simpson, Reader in Law, on appointment as Puisne Judge, Kenya.

Retirements
Professor C. P. FitzGerald, Professor and Head of Department of Far Eastern History.

THE SCHOOL OF GENERAL STUDIES
Mr N. Hall, Senior Lecturer in Forestry.

Visiting Research Workers
Dr M. Anas, Aligarh Muslim University; Mr A. H. Ashendon, Victoria University of Wellington; Dr Anne C. Baker, University College of Swansea; Dr S. Banno, Kanazawa University; Dr B. E. Baschek, Christian Albrecht University of Kiel; Mr and Mrs J. O. Bayley, University of Oxford; Dr W. Brass, London School of Hygiene and Tropical Medicine; Professor D. S. Burch, Oregon State University; Dr D. E. Butler, University of Oxford; Dr Marilyn Butler, University of Oxford; Professor F. A. Campbell, University of Calgary; Miss V. Cane, University of Cambridge; Dr G. A. Chinner, University of Cambridge; Dr Helen V. Coates, National Institute of Allergy and Infectious Diseases, Bethesda, Md; Dr W. C. de Groat, University of Pennsylvania; Dr Rhoda Dorsey, Goucher College; Professor F. J. Dyson, Princeton University; Dr J. E. Everett; Dr and Mrs B. Finney, University of California (Santa Barbara); Professor J. G. Fleming, University of California (Berkeley); Dr E. Ghent, University of Otago; Dr E. Giles, Harvard University; Dr and Mrs R. F. Goldstein, University of Alaska; Professor N. Grushinskii, Moscow State University; Associate Professor D. J. Heasman, University of Saskatchewan; Professor Sir John and Lady Hicks, University of Oxford; Emeritus Professor E. Hille, Yale University; Mr J. M. Hinton, University of Oxford; Dr H. P. C. Hogenkamp, University of Iowa; Dr R. Hosli, University of Basel; Professor T. W. Hutchison, University of Birmingham; Dr M. Ishizu, Kyoto University; Dr. H. Jaeger, Humboldt University of Berlin; Professor R. Jones, University of Rochester; Professor N. Kemmer, University of Edinburgh; Dr J. E. Kendle, University of Manitoba; Dr B. Kinsey, University of Texas; Dr A. M. Lane, AERE, Harwell; Dr J. B. Lansing, University of Michigan; Professor J. F. Lerbekmo, University of Michigan; Dr Li Chi, Academia Sinica, Taipei; Associate Professor H. J. F. Lowig, University of Alberta; Dr E. M. Martin, National Institute for Research, London; Professor N. Mellor, University of Hawaii; Professor W. H. Moir, University of Colorado; Dr H. Naora, National Cancer Centre and Research Institute, Tokyo; Emeritus Professor M. H. A. Newman, F.R.S., University of Manchester; Professor P. A. Nicoll, University of Indiana; Professor Els Oksaar, University of Hamburg; Mr V. B. Olenin, Moscow State University; Professor Y. Oshima, Waseda University; Professor B. Osogoe, Okayama University; Dr S. Otok, University of Warsaw; Dr C. J. K.
Paniker, University of Kerala; Dr K. R. Parthasarathy, University of Sheffield; Mr J. C. Poland, McGill University; Dr K. H. Purser, University of Rochester; Professor D. Robson, Florida State University; Dr W. L. Rowe, Duke University; Dr A. G. Sanders, University of Oxford; Professor P. S. Sarma, Indian Institute of Science, Bangalore; Professor K. Sinclair, University of Oxford; Dr C. J. Smith, State University of New York; Dr D. Stancek, Czechoslovak Academy of Sciences; Professor K. Stacey, Kansas State University; Professor J. A. Steers, University of Cambridge; Professor M. H. Stone, University of Chicago; Associate Professor S. Swierczkowski, University of Sussex; Dr K. S. Thompson, Yale University; Professor B. O. Unbegaun, New York University; Dr L. N. Vorobiev, Moscow State University; Dr K. H. Walen, University of California (Berkeley); Dr A. M. Walker, University of Cambridge; Professor W. A. Weber, University of Colorado; Dr M. W. Whitehouse, Ohio State University; Mr V. J. Willis, University of Alberta; Professor C. N. Yang, State University of New York; Mr K. Yoneda, Institute of Asian Economic Affairs, Tokyo.

VISITORS
During the year the University was honoured by the visit of:
- The Prime Minister of Japan and Mrs Sato
- The Israeli Minister of Foreign Affairs
- H.E. The Ambassador of the Argentine Republic
- H.E. The Ambassador of the Union of Soviet Socialist Republics and Mrs Tarakanova
- H.E. The United Nations High Commissioner for Refugees
- H.E. The French High Commissioner in the Pacific and Mme Risterucci.

Among other overseas visitors to the University were: Lord Denning, Master of the Rolls, and Lady Denning; Professor Soemantri Brodjonegro, Rector of the University of Indonesia; Lord James of Rusholme, Vice-Chancellor of the University of York; Professor Ying-Jung Huang, Deputy Vice-Chancellor of Nanyang University, Singapore; Sir George Cartland, Registrar of the University of Birmingham, and Lady Cartland; Mr N. W. Kingsbury, Registrar of the University of Waikato; Mr Son Sann, Governor of the National Bank of Cambodia and personal representative of Prince Norodom Sihanouk; Dr S. E. Eriksen, Director of the Center for Research on Learning and Teaching, University of Michigan; Mr M. Kaunda, Deputy Director of Correspondence Studies, University of Zambia; Mrs P. Castrence, Assistant Secretary for Information and Cultural Affairs in the Philippines Foreign Ministry; Mr D. A. Strachan, Director of the Colombo Plan Bureau, Colombo, and a parliamentary delegation from Ceylon.

BENEFACTIONS
Special Purpose Grants and Bequests to the University during 1967 were as follows:

<table>
<thead>
<tr>
<th>Donor</th>
<th>Amount</th>
<th>Purpose</th>
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<td>Ian Potter Foundation</td>
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<tr>
<td></td>
<td>$1,000</td>
<td>For research—Department of Microbiology</td>
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</tbody>
</table>

Acknowledgment must also be made here of the many gifts in kind received by the University.
The early months of 1967 saw the John Curtin School of Medical Research approaching its maximum strength, as far as academic personnel and departmental structure were concerned, but later in the year major changes occurred in the Institute of Advanced Studies which have already altered the departmental structure of the School. There will be continuing changes in the years ahead, so that although full-grown the School will not become static, but will gradually alter its program as dictated by the demands of scientific logic and of national need.

The most notable change in the Institute of Advanced Studies in 1967 was the establishment, described elsewhere in this Report, of a Research School of Biological Sciences, a development which will further strengthen the already powerful array of biological scientists in Canberra. In July Professor D. G. Catcheside, Head of the Department of Genetics in the John Curtin School, was appointed Director of the new school, and in October most members of the Department of Genetics of the John Curtin School transferred to the Research School of Biological Sciences, although they will continue to occupy laboratories in the John Curtin School until about 1971. Several members of the John Curtin School were deeply involved in planning for the new school, and it is anticipated that the two schools will collaborate actively both in research and in graduate training.

Another important change in the John Curtin School of Medical Research was the institution of a form of School government more appropriate to the greatly increased size and seniority of its academic staff. Following a recommendation from the academic staff through the Dean, the Vice-Chancellor set up a committee headed by Mr D. M. B. Butt to inquire into the organisation and administration of the research schools within the Institute of Advanced Studies. The committee recommended that a faculty and faculty board (with wider non-professorial representation than the School Committee) should be established in the John Curtin School of Medical Research, and these bodies commenced to function in July.

Other important changes in the School were those associated with the resignations of some senior academics and the appointments of others. In January Professor Sir Hugh Ennor, who had been Professor of Biochemistry in the School since 1948 and Dean since 1953, resigned from the University to become the permanent head of the newly established Department of Education and Science.
Professor F. C. Courtice was appointed Acting Dean from February until September, when Council appointed Professor Fenner, Head of the Department of Microbiology, as Head of the School, with the title of Director. In October, Professor Fenner resigned from the headship of the Department of Microbiology; an electoral committee appointed by Council is currently engaged in a search for his successor.

In 1966 Professor F. W. E. Gibson was appointed Head of the Department of Biochemistry, and on 1 January 1967, he took up his appointment in Canberra. Early in 1967, Professor P. O. Bishop was appointed as the new Head of the Department of Physiology, in succession to Professor Sir John Eccles. Professor Bishop was formerly Professor of Physiology at the University of Sydney, where he had built up a strong school of neurophysiological research, with a special emphasis on neural mechanisms of vision. Professor Bishop moved to the School in September. Although Professor Whyte took up his appointment as Head of the Department of Clinical Science in 1966, his wards and laboratories at the Canberra Community Hospital were not completed until September, when the Department moved to its excellent new quarters.

In July Dr E. H. Mercer resigned from his position as Head of the Electron Microscope Unit; the Unit was then reorganised and attached administratively to the Department of Experimental Pathology. During the year Dr R. L. Kirk, formerly Chief of the Section of Human Genetics in the World Health Organization, set up a small group in human genetics, which will work on the genetics of proteins in human populations in Australia, Malaysia and India.

Professor Fenner was elected a Fellow of the Royal College of Physicians of London and gave the Matthew Flinders Lecture of the Australian Academy of Science. In December he received the Britannica Australia Award for Medicine, for contributions to the understanding of virus disease. Other awards made and named lectures delivered during 1967 were: Professor P. O. Bishop, Fellow of the Australian Academy of Science; Dr P. J. Nestel, the Eric Susman Prize of the Royal Australasian College of Physicians; Professor F. C. Courtice, the Keith Inglis Memorial Lecture; and Professor A. Albert, the Sydney Wright Memorial Lecture.

The work of the Department of Biochemistry continued to be oriented towards studies of problems of fundamental biochemistry. Several different research groups are concerned in the work and their problems can be divided into two broad categories: the study of the metabolic pathways whereby compounds are built up and broken down in cells, and detailed studies of the way in which the vital protein catalysts of all cells, the enzymes, exert their activity.

The pathways of formation of one particular group of compounds in the cell, the aromatic amino acids and vitamins, is being studied by one research group. For this work bacterial cells provide the best experimental material and, in order to study the pathways, various bacterial mutants have been isolated which are unable to carry out certain vital biosynthetic reactions in the cell. Such mutants often form the compound in the pathway immediately preceding the 'biochemical lesion', allowing the chemical compound to be isolated and identified. Apart from providing information about the chemical compounds involved in the various pathways, mutants requiring vitamin K and a related compound, ubiquinone, have been isolated for the first time. These mutants...
are being used also to add to the small amount of information available on
the role of these compounds in living cells. Another research group is studying
the formation and breakdown of an important group of chemical compounds
found in various cells, namely those compounds containing carbonphosphorus
bonds.

The detailed mechanisms of enzyme action are being studied by several different
approaches. One group is studying the functioning of enzymes which use vita­
mamin B_{12} as coenzyme by detailed chemical studies determining, for example,
the fate of particular hydrogen atoms on the vitamin B_{12} coenzyme during the
action of the enzyme. Yet another group is studying the way in which enzymes
function by examination of the rates of enzyme reactions under various condi­
tions. The mathematical analysis of the experimental results, including the
compilation of suitable computer programs allow certain deductions to be
drawn about the chemical and physical changes taking place at the molecular
level. The third method of approach is being carried out by a group of pro­
tein chemists who are examining the chemical structure of proteins, and
enzymes in particular. Their aim is to carry out detailed analyses of the amino
acids composition of the proteins. It has also been possible, in some cases, to
determine which of these many amino acids in the protein are important in
the ‘active centre’ of the enzymes to which the relatively small substrate is
bound during enzyme action.

The \textit{Department of Clinical Science} moved into the Canberra Community
Hospital in September and occupied the fifth floor of the new wing where it
provides facilities for seeing ambulatory patients and accommodating sixteen
in-patients, and has various service rooms, laboratories and offices. The Depart­
ment accepts clinical responsibility for the investigation and treatment of
patients and pursues a program of clinical and laboratory research orientated
towards problems associated with coronary heart disease. Work done in Can­
berra is linked with work in New Guinea with a selected population in which
coronary disease is believed to be rare and for whom rapid changes towards a
western way of life are predicated.

Work done during the year included participation in a Student Health Survey
in the University; epidemiological studies in New Guinea; investigations of
the manner in which cholesterol and other fats are processed in the body,
especially in relation to obesity studies involving human adipose tissue; the
insulin response to different types of food; the relationship of blood pressure
to sympathetic nervous activity and studies on blood clotting and the dissolu­
tion of clots.

The \textit{Department of Experimental Pathology} is concerned with research in
several broad fields of experimental pathology, including the normal and
pathological function of the lymphatic system and the phenomenon of im­
munity; the role of the microcirculation in inflammation; disease of arteries
especially the aetiology of atherosclerosis and the metabolism of elastin, and
lipid transport and metabolism.

Disease of arteries is very prevalent in our society, especially atherosclerosis
of the coronary arteries which is the basic disorder leading to coronary heart
disease. Experiments are being done to study the morphological changes of the
arteries in this disease, as shown by the electron microscope, the metabolism
of elastin, an important component of the walls of arteries, and of lipid which
is deposited in atherosclerotic lesions in arteries. The small blood vessels, the
capillaries, are being studied in relation to the effects of injury leading to inflammation.

Immunity against infective agents is due to certain cellular reactions which involve the recognition of foreign material and the generation of a population of reactive cells which elaborate specific antibody protein and which subsequently constitute the cellular basis of immunological memory. These reactions involve the macrophages and lymphoid cells found in lymph nodes and spleen and experiments have been directed towards finding out the way in which these cell types interact in initiating an immune response, their life histories and their developmental potentialities. These types of experiments have been done with a view to understanding the reactions of the body to material that is ‘non-self’ and the mechanism by which grafts of foreign tissue are rejected.

The Department of Medical Chemistry is concerned with the study of the smaller molecular weight substances which affect living cells. Some of these substances are normal constituents of the living cell, whereas others are medicinal. To study the immense problems of their mode of action, they are investigated in conjunction with the whole family of related substances to which they belong. Their behaviour in water is the most important of their properties, because water is the (remarkably complex) solvent in which the chemistry of life takes place.

The principal chemical families studied in the Department during 1967 were the pyrimidines and purines, members of which store the information on heredity and control the accumulation and release of energy in every living cell also the pteridines, some of which are essential links in the synthesis of the cell's pyrimidines and purines. In addition, studies were continued of closely related families, antagonistic in their biological action to the foregoing. Thus the 8-azapurines, which differ from the purines mainly by the substitution of one nitrogen atom (denoted as ‘aza’) for one carbon atom in the molecule, are biological antagonists of the natural purines, and have a special interest for cancer research. A highlight of the Department's recent work was the discovery of two new reactions for synthesis azapurines which have long been required for this work but could not be made by conventional means.

Kinetics (the study of rates of reactions) occupied a larger part of the Department's program than heretofore. These studies were undertaken to compare the reactivity of related substances, or of competing positions within one molecule, and to express the results in exact numerical terms. Kinetics thus furnished a valuable counterpart to our usual equilibrium studies, in which the final proportions assumed by a mixture of interconvertible substances is the focal point of interest. Many of the equilibrium studies made in 1967 were concerned with the binding of mineral substances by such important cell-constituents as the aminoacids. This is a highly competitive phenomenon, for there are about ten mineral cations concerned, and twenty-four aminoacids. Quantitative information can be obtained from very precise electrical measurements on such mixtures at consecutive stages of neutralisation, in water. The use of computers in processing the results has enabled the more complex experiments to be undertaken, which come closer to the living processes for which they are models.

The work of the Department has been greatly facilitated by access to suitable apparatus, often of great complexity. This has included not only computers, but spectrophotometers of new and intricate design, nuclear magnetic resonance equipment, and vapour-phase chromatography apparatus used for separating the constituents of complex mixtures. Application of such equipment has
become essential in modern medical research if the accepted rate of progress is to be maintained.

In the *Department of Microbiology* work has continued on the chemical structure of influenza virus, and on the changes in the virus that occur between epidemics and pandemics. Recent studies suggest that although many strains of virus undergo gradual changes in character as they spread through the human population, pandemic strains of virus, which show sudden changes in character, have their origin in reservoirs of infection in domestic animals and birds.

Viruses whose ultimate structure is being investigated include the bee paralysis viruses and certain of the pox viruses. The DNA of rabbitpox and mousepox has been prepared and molecular weights and chemical composition studied.

In virology it is also important to study the infected animal, and one virus at present under investigation in the Department is of particular interest. This virus (LCM), infects colonies of mice. Throughout the life of the mouse it grows in all tissues of the body, but there are no ill effects of pathological lesions, infected animals remaining perfectly well. Mice are already infected in utero from the infected mother, and even the unfertilised egg is infected. As a result mice fail to recognise the virus as foreign, and do not produce antibodies in the normal way or eliminate the infection. However, when mice from virus-free colonies are infected for the first time they undergo a vigorous immune response, and it is this response that causes pathological changes in the tissues, and often death. LCM virus infection of mice is of interest first because mouse leukaemia viruses are transmitted from generation to generation in the same way, and second because it provides a laboratory model for the study of the sometimes harmful consequences of the immune response.

The general aim of the *Department of Physical Biochemistry* is to work on and encourage the use of physico-chemical and mathematical ideas and methods for the solution of biological problems. Members of the Department are mostly physical chemists by original training, who have acquired special interest in the biological field. The current research program of the Department falls under four main heads:

(a) The matrix or 'connective tissue' which embeds and supports the cells of the body contains a number of complex polysaccharides whose presence helps to determine the mechanical properties and permeability of the tissues. Isolation and characterisation of these substances, for which a number of special methods have been developed, has been a necessary preliminary to the next stage, now being undertaken, of attempting to assess their physiological functions in the various sites in which they occur. A simple new method has been devised and is being used for measuring their water-holding capacity. Interactions between complex substances may also be of importance in determining the properties of tissues: during the past year experiments were carried out on model systems which illustrate the conditions under which a single, mixed solution may separate into two different mixtures.

(b) One of the major problems of protein chemistry is the understanding of the factors which determine the folding of protein chains into stable structures, and their association with larger units. Changes in the state of such protein structures is known to modify their biological activities. Studies have been continued on closely-related classes of milk proteins, which throw light on this problem and on the evolution of particular forms of proteins, and which have given results of practical value for the processing of milk for infant feeding.
(c) Studies continued on the enzymes concerned with the metabolism of sulphate ions. This relatively neglected field is important in relation to the metabolism of the steroid hormones and other substances including some tissue polysaccharides. The work also contributes to the understanding of the general properties of enzymes. A detailed theoretical investigation has been made into certain aspects of the speed at which enzyme-catalysed reactions take place, and useful results have been obtained for interpreting experimental results.

(d) Theoretical and experimental studies have been carried out upon the effects of molecular interactions on the separation of materials by transport processes. These have thrown light on some of the misinterpretations of such processes that have occurred in the past, and will help to make more correct interpretations possible.

In addition experimental studies have been carried out on the chemistry of the blood group-specific substances; work has continued on the theory of population dynamics; and a program was begun on the effects of radiations on the components of biological membranes.

The work of the Department of Physiology is mainly concentrated along three separate lines: (a) the nature of the chemical substances used to transmit information between nerve cells; (b) the way muscle nerves influence and determine the properties of the muscles to which they are connected; and (c) the nervous mechanisms in the eye and the brain that enable us to see and recognise the objects in the world about us.

Nerve messages are transmitted from one nerve cell to the next by means of chemical mediators. These chemical transmitters either cause the next cell to fire or they prevent or inhibit the cell from firing in response to an excitatory transmitter from still another cell. Apart from acetylcholine, accepted as a transmitter at some junctional regions in the central nervous system, the identity of transmitters at the large majority of junctions remains unknown. The demonstration in the Department that the substance glycine, is probably a major inhibitory transmitter agent in the spinal cord is therefore of considerable importance. The methods developed during this investigation will undoubtedly lead to the identification of other transmitters in both the brain and spinal cord. Progress is also being made with the study of the factors involved in the manufacture, storage and destruction in the body of the various possible transmitter agents and also with the actual mechanism of release of the agents from the nerve endings.

Apart from the actual initiation of muscular contraction, the nature of this contraction and the behaviour of muscles generally are much influenced and possibly determined by the kinds of nerve fibres that are connected to them. By means of cross-suturing experiments, disconnecting a nerve trunk from the one muscle and connecting it to another, it has been possible to sort out many of the details of this influence of the nerve on the muscle it innervates.

The work on the visual system is new to the Department and effort in this field during the past year has been concerned with fitting out new laboratories and with the design and construction of the mechanical, optical and electronic equipment to be used in these laboratories.

The eye forms an image of objects on the outside world on the sensitive layer at the back of the eye. In the first instance, the visual studies will be mainly concerned with the way that the nerve cells in the eye code this image as patterns of nerve impulses in the optic nerve and the successive transformations these
patterns undergo in their passage along the visual pathway to the cerebral cortex. These visual mechanisms enable the brain to recognise one object as being different from another.

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* Based on work done while a member of the Department.
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HUBBARD, J. I., STENHOUSE, D. & ECCLES, ROSAMOND, M.†

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JOHNSTON, G. A. R.


JOHNSTON, G. A. R. & LLOYD, HELEN J.

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RYALL, R. W.

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STEHBENS, W. E. §§ & BISCOE, T. J.*

T H E S E S

Thesis titles of work successfully submitted by research students in the John Curtin School of Medical Research:

‘Some rapid reactions of nitrogen heterocycles in water.’ J. W. Bunting (*Department of Medical Chemistry*).

‘Investigations of nitrogen heterocycles.’ J. G. Catterall (*Department of Medical Chemistry*).

A quantitative study of the aminolysis of alkoxy and alkylthiopyrimidines.’ R. V. Foster (*Department of Medical Chemistry*).

‘Cellular changes induced by poliovirus.’ D. J. Garwes (*Department of Microbiology*).

‘Antibodies in delayed-type hypersensitivity.’ E. Gowland (*Department of Experimental Pathology*).

‘Structure and function in phagocytic cells.’ R. J. North (*Department of Experimental Pathology*).

‘A study of the Dimroth Rearrangement in pyrimidine and related heterocycles.’ M. N. Paddon-Row (*Department of Medical Chemistry*).

‘Studies on the bovine β-lactoglobulins.’ W. H. Sawyer (*Department of Physical Biochemistry*).

‘Complex formation between metals and sulphur-containing ligands.’ I. G. Sayce (*Department of Medical Chemistry*).

‘Physical and chemical studies in the quinazoline series.’ J. Smith (*Department of Medical Chemistry*).

‘Immunology of cold-blooded vertebrates.’ N. N. Tait (*Department of Experimental Pathology*).

‘Genetics of rabbitpox virus.’ J. K. N. Tomkins (*Department of Microbiology*).

‘Kinetic studies of phosphotransferases: 1. Function of metal ions in the creatine kinase reaction; 2. Mechanism of the arginine kinase reaction.’ Marie L. Uhr (*Department of Biochemistry*).

* Based on work done while a member of the Department.
*** Based on work done while a Visiting Research Worker.
§§ Based on work done while a member of the Department of Experimental Pathology.
Professor E. W. Titterton, C.M.G., F.A.A.

The outstanding event of the year was the decision of the Australian and United Kingdom Governments to build a 150-inch optical telescope at the University's Siding Spring Observatory. The telescope will take five years to construct and the project is controlled by a joint Anglo-Australian Policy Committee which includes Professor O. J. Eggen. The Department of Astronomy expects to be a substantial user of observing time on this instrument when it is completed.

Following detailed discussions among the academic staff of the School over a period of some six months, a major change was made in the internal administration. The old School Committee, which comprised heads of departments only, was disbanded and replaced by a faculty board. The new group has, in addition to heads of departments, three elected members. They are Dr R. W. Crompton, Dr M. S. Paterson and Professor D. C. Peaslee. A faculty, comprising all members of the academic staff, was set up at the same time and meets three times a year; the faculty board meets monthly.

These changes are intended to facilitate the flow of information to and from staff members and to stimulate interchanges between various departments. The first meetings of these new groups were held in August and September respectively.

In July the Australian Universities Commission informed the University that the Government would not be able to fund the construction of the type FN injector accelerator requested for the Department of Nuclear Physics during the present triennium. The Commission suggested that the proposal be resubmitted for the 1970-72 triennium and this was done.

A major review of the research activities of the School was undertaken prior to the preparation of the submission for the 1970-72 triennium. It was decided that the four main experimental departments—Astronomy, Engineering Physics, Geophysics and Geochemistry, and Nuclear Physics should reach their ultimate sizes late in this triennium or early in the next.

Two new, but small, departments are proposed—Applied Mathematics and Solid State Physics. To help with the formation of the first, Professor B. H. Neumann has offered six staff positions from Pure Mathematics. On Sir Mark Oliphant's retirement from his University Fellowship, the Physics of Ionized Gases Unit will close down and Professor Eggen is investigating the possibility of transferring the Time Service elsewhere. The posts so released will go towards establishing the proposed new Department of Solid State Physics.

It will be recalled that, as an interim measure, the Computer Centre was established within this School in temporary quarters and was made responsible to the Dean. As the computer service has expanded, although physics still is the largest customer, it was felt to be desirable to change the mode of operation. The Centre, therefore, became a University service as from July, and is responsible, through a Computer Advisory Committee, to the Vice-Chancellor. As a matter of convenience, however, the report of the Centre is included here.

For the future, when the Computer Centre moves into its new building, in the next triennium, a medium sized computer of the PDP 10/50 type will need to be located in the School and a proposal has been made for this in the new submission.
Towards the end of the year work began on the extensions to the Geophysics and Geochemistry buildings and on the small extension to the Nuclear Physics office block. A visitors' gallery, to allow the public to view the interior of the 74-inch dome at the Mount Stromlo Observatory without interfering with the work, was opened just before Christmas.

On the staff side, Professor A. E. Ringwood who had been a Personal Professor since 1963, was appointed to the Chair of Geochemistry within the Department of Geophysics and Geochemistry and took up his new duties in March.

The research output of the School continued to grow. During the year 259 papers were published and, in addition, many internal reports were produced. The work of the School is now well known all over the world and, as a result, many visitors elect to spend periods of time varying from a few days up to a year in one or other of the departments. This is of great benefit to staff and students alike as it stimulates discussion and brings fresh viewpoints from other laboratories, both in Australia and overseas.

The following notes describe the more important developments in research within the School.

In the Department of Astronomy the year was marked by the decision on the 150-inch telescope, already mentioned, a considerable advance in the instrumentation of the telescope and an entry in a major way into the field of observational cosmology.

There are two approaches to the study of the evolution of a galaxy such as our own. One is to develop an understanding of the evolution of the components—stars and gas—of our own galaxy for use in explaining the other galaxies. Because of the chance orientation of the earth's axis, southern observatories are in a favoured position for this type of research and the Mount Stromlo Observatory staff have fully utilised this advantage and are recognised as experts in stellar evolution. The second method, which is to study distant galaxies, offers the advantage of perspective in that a universe-view of evolution can be developed and the fundamental problem of cosmology attacked directly. Through the co-operation of the Carnegie Institution of Washington and Dr Kent Ford of that Institution, the image tube spectrograph for the 74-inch reflector, mentioned in last year's Report, was installed during May. It has been in constant use since that time and has been used for the first systematic survey and redshift measurements of southern quasi-stellar radio sources. Experience with this equipment led to new spectrographic designs which are incorporated into an instrument now on order.

The basic design of the Mount Palomar spectral scanner, also mentioned in last year's Report, was used to develop a 33 channel scanner which is now being built here. This instrument, together with the image tube spectrograph and new camera for the Coudé spectrograph will greatly increase the research potential of the 74-inch reflector. Moreover, this scanner was designed with the 150-inch Australian-British telescope in view.

The 150-inch telescope will not be under University control but it will be sited at Siding Spring Observatory and its maintenance and operation will be co-ordinated with the Department's activities there. The University is deeply involved in the planning and construction of the telescope. Professor Eggen is a member of the joint Australian-British committee for the construction and Dr S. C. B. Gascoigne and Mr H. Wehner serve on the technical committee.
Australia’s capability to co-operate in the venture relies greatly on the competence of the Mount Stromlo Observatory staff and their experience in the theory and practice of telescope design and construction.

The continuing emphasis on first class auxiliary instrumentation is one of the keys to the international reputation enjoyed by Mount Stromlo Observatory. By world standards the 74-inch reflector is a small telescope but the rate of capital investment at Mount Stromlo Observatory and Siding Spring Observatory has been designed to keep the instruments up-to-date and provide an outstanding array of auxiliary instruments. Unlike many other users of telescopes of these small apertures, the Department has been able to work in the central areas of contemporary research.

In the Computer Centre use of the 360/50 Computer has approximately doubled during the year. Despite the installation of additional equipment it is likely that some delays to users will occur in 1968. The machine is in use twenty-four hours a day, seven days a week, and is attended by Computer Centre operating staff for fifteen hours a day.

During the year a major improvement in the operating system was made by the introduction of a two-partition multi-programming system. This increased the output of the machine by about 40%. The scheme is dependent on a monitor program developed by the Centre which has the advantage of avoiding job scheduler overheads of thirty seconds a job.

Other major programming improvements include a subroutine that permits the user to control the action taken when a machine exception occurs, and the successful linking of FORTRAN, Assembler, and PL/1 subroutines so that the main advantages of each can be utilised.

Research has been carried out in numerical analysis and in the theory and implementation of programming languages and this work has been published. During the year courses were offered in elementary FORTRAN, and in the techniques and facilities for scientific data processing, and courses were given to students of statistics and accountancy in the School of General Studies.

The main interest of the Diffusion Research Unit is in the investigation of the nature of liquids, nowadays often called ‘liquid-state physics’.

The most important advance during the year was in the theory of liquids. The work was sparked by discussions with members of the Department of Theoretical Physics and shows that some of the newer theoretical equations proposed for liquids can predict a phase-change, that is, a change from gas to liquid. This had not previously been demonstrated and represents a significant advance in liquid-state theory.

The year saw the completion, in the Electron and Ion Diffusion Unit, of much of the work that can be performed using conventional vacuum technology and a full scale program has been in progress to convert the majority of the equipment to a form enabling adequate gas purity to be met and maintained. This work was carried out in conjunction with the development of a large differentially pumped ultra-high vacuum manifold for the experiment to measure the mobility of mass identified ions. Because of these major equipment changes relatively few experimental measurements have been made throughout the year. However, several sets of results for electron and positive ion transport coefficients have been obtained to augment the standard data published by the Unit.
The apparatus for the ion mobility experiment is nearing completion; the section for determining ion mobilities has been completed and tested. Experimental work has commenced which will yield accurate cross sections for electrons in neon and argon in the energy range 0.01 to 10 electron volts, and on negative ion space charge effects. Theoretical studies, in part supported by experimental work, have been completed on the influence of diffusion on the measurement of electron drift velocities and ionisation rates.

In its present form the Department of Engineering Physics is nearly three years old, and in this time the homopolar generator, its biggest item of equipment, has been developed to a stage of effective, reliable operation.

The generator is now in use to study phenomena which require and can take advantage of high energy pulses. There are two main uses at present.

In the first a 150,000 gauss magnet is powered for experiments in solid state physics jointly with the University of Oxford and Monash University and for the provision of magnet laboratory facilities for the University of Adelaide.

Because of the unique high field magnet facilities available and under construction (a 300,000 kilogauss magnet currently being built will provide the most intense magnetic field of several seconds' duration yet achieved) it is felt that outside research workers should have access to the laboratory for suitable experiments. Concurrently, the Department is designing its own experiments which it is expected will expand in number and scope as time goes by.

In the second application, the high current capacity of the homopolar generator has allowed initial studies of the production, stabilisation and properties of million ampere electric arcs in air to be made.

Other experiments, including a megawatt arc heater for studies in high speed aerodynamics, are contemplated, and in general the major allocation of departmental resources is to activities related directly to the homopolar generator.

A second research program centres on experiments with a small toroidal plasma machine with the aim of producing hot, stable, predictable plasmas. This, essentially, is a pilot study to determine the feasibility of a major plasma experiment employing the homopolar generator. Recent experimental results confirmed theoretical predictions and the work continues.

The other activity of the Department is in information processing and systems science. This work aims to develop basic philosophies, principles, strategies, functions and techniques for information processing including pattern recognition and adaptive control which can be applied in many fields. Studies are directed particularly to seismic information processing, especially the processing of the seismic records from the University's Warramunga Array at Tennant Creek, Northern Territory, a joint project with the Department of Geophysics and Geochemistry which provides a medium for testing theories of signals to noise improvement, with a goal of partially, or completely, automating the processing of seismic records. Some work has been done on general information processing, particularly the achievement of pattern recognition and adaptive control functions with widespread possible applications, including automation of the operation of the homopolar generator and its allied experiments.

Research in the Department of Geophysics and Geochemistry is directed to advancing knowledge of the crust and interior of the earth by simultaneous application of a wide variety of methods.
The largest program is the study of the ages and isotopic compositions of Australian and other rocks, partly in collaboration with the Bureau of Mineral Resources and Australian and overseas geological surveys. Some 1,500 rocks were dated during the year and results continue to accumulate steadily. Because recent palaeomagnetic evidence supports the theory of continental drift and indicates that India and Western Australia were at one time connected, some correlation between the geology of the two countries may be expected and a program of age dating and palaeomagnetism in India has been undertaken.

An intensive study of the Western Australian Precambrian shield using geomagnetic and geothermal methods as well as trace-element and isotopic measurements is being made in collaboration with the Geological Survey of Western Australia. The study of shields is of great geophysical interest, and this work will comprise one of the major Australian contributions to the International Upper Mantle Project.

The new ultra-high pressure apparatus providing pressures of up to 250,000 atmospheres at 1000°C is now in full operation and some thirty new phase transformations of silicate minerals have been discovered. These provide fundamental material for elucidating the structure of the earth to depths of 1,000 kilometres.

Other work in the Department includes seismology; geothermal measurements; palaeomagnetism and geomagnetism; the deformation of rocks and minerals at high temperatures and pressures, which forms the experimental foundation of structural geology; deformation of rocks at low stresses, which is fundamental for the important practical subject of rock mechanics; measurements of the trace-element and radio active content of rocks and meteorites; studies of the melting of rocks and minerals at high pressures with particular reference to the origin of magmas and igneous and metamorphic petrology. Invariably, as many as possible of these techniques are applied to problems under investigation.

In the Department of Mathematics recruiting improved, both at staff level and for research students, and the group is approaching its full strength. It again attracted numerous distinguished visitors and its members were in demand for lectures and consultation in Australia, and also for the first time in New Zealand. Five research students were admitted to the degree of Doctor of Philosophy and took academic appointments in Australia, Asia and America.

The directions in which research was carried out remained substantially as in earlier years. Close collaboration with the sister departments in the School of General Studies continued, with the exchange of research supervision and other advanced teaching. The departments collaborated, as in the past, as hosts to the Summer Research Institute of the Australian Mathematical Society and, for the first time, were hosts to the Australian Mathematical Society itself for its annual meeting.

The Proceedings of the International Conference on the Theory of Groups held in Canberra in August 1965, were published by Gordon & Breach, New York, during the year.

The year saw the final retirement of the 1.2 MeV Cockcroft Walton machine which was the first accelerator available to the Department of Nuclear Physics and has been used since 1951. It was replaced by the 2 MeV type AK accelerator which is now fully instrumented and in operation.

The tandem accelerator provided 6,200 hours of beam time for the year even though plagued by a larger number of minor failures than usual. A full set of
inclined field accelerating tubes were installed in March and their operation has been satisfactory. Helium injection to the machine now is from a 1 MeV type J accelerator, but negative helium acceleration is also in use, following modifications to the duoplasmatron source.

The situation relating to the proposal for a second tandem accelerator type FN, to act as an injector to the present machine, has already been mentioned. A complete review of the position, including other possible accelerators such as isochronous cyclotrons was undertaken before the new submission, requested by the Australian Universities Commission, was prepared. The assessment led to the firm conclusion that the best choice for the department would be a 'super FN' accelerator and the proposal was made accordingly. This machine could be used in its own right as well as in the role of an injector to the EN tandem.

The researches of the group, mainly in nuclear structure physics, have been extended to all regions of the periodic table. Notable amongst them were the detection of proton-proton bremsstrahlung at 10 MeV with cross-sections which indicate that none of the current theories are satisfactory and the measurement of the tensor polarisation of deuterons from C\(^{12}\)-deuteron elastic scattering. Detailed studies of \((\text{He}^3, \alpha)\) reactions and \(\text{He}^3\) elastic scattering on \(\text{O}^{16}\), \(\text{Ne}^{20}\), \(\text{Ne}^{22}\), \(\text{Mg}^{26}\), \(\text{Al}^{27}\) and \(\text{Si}^{28}\) have been completed and analysed using optical model techniques.

Many proton-capture reactions have been studied using the 2 MeV and tandem accelerators and proton elastic scattering experiments for nuclei with \(A \leq 31\) are in progress to elucidate the interaction of compound and direct reaction processes. Investigation of the odd-mass cobalt isotopes has, among other results, led to the discovery of fifteen new levels in \(\text{Co}^{61}\) and decay schemes are being established.

Oxygen ions of energies over 30 MeV have been used to study excited states in \(\text{Rh}^{103}\) by Coulomb excitation and the work indicates that the spectrum is as expected from the weak coupling model. A sub-Coulomb stripping experiment, \(\text{Pb}^{208}(dp)\text{Pb}^{209}\), leads to a determination of the r.m.s. radius of the \(\text{Pb}^{209}\) as well as \((6.1 \pm 0.3)\) fermis which is larger than the charge radius found from electron scattering or the value obtained from muonic X-ray measurements.

Staff of the Department of Theoretical Physics continued their work on fundamental problems of nuclear physics, elementary particle physics, statistical mechanics and plasma physics.

Some of the researches are related to the experimental interests of the Research School and during the year there was a fruitful collaboration with the Department of Nuclear Physics on problems of nuclear reactions and scattering; and with the Diffusion Research Unit on the calculation of the behaviour of a gas near its critical point.
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Davidson, M. G.

Gupta, S. C.

Kennedy, R. C.

† Not a member of this University.
* Based on work done while a member of the Department.
§ A member of the Department of Theoretical Physics, Institute of Advanced Studies.
§§ A member of the Department of Nuclear Physics.
Kumar, K.

Le Couteur, K. J.
'Particle guiding by helical multipole fields.' Plasma Physics, 9, 457.

Nakagawa, M. & Trofimenkoff, N. N.
'A similarity between the medium strong symmetry-breaking and non-leptonic weak interactions.' Nuovo Cim., 50A, 657.
'S-wave nonleptonic hyperon decays and models of baryons.' Nuovo Cim., 52, 961.

Patterson, J. R. §§, Poate, J. M. §§, Robson, B. A. & Titterton, E. W. §§

Peaslee, D. C.

Robson, B. A.
A Fortran Program for Elastic Deuteron Scattering. Oak Ridge National Laboratory ORNL.TM 1831.

Robson, B. A. & Robson, D.‡

THESES
Thesis titles of work successfully submitted by research students in the Research School of Physical Sciences.

'On varieties of A-groups'. P. J. Cossey (Department of Mathematics).
'Finite groups with cyclic Sylow subgroups for all odd primes'. T. M. Gagen (Department of Mathematics).
'Linear canonical systems with periodic coefficients'. A. Howe (Department of Mathematics).
'Electron transport coefficients and collision cross sections in hydrogen'. A. I. McIntosh (Electron and Ion Diffusion Unit).
'The Londonderry and Tantalite Hill Pegmatites and their associated rocks, Coolgardie Goldfield, Western Australia'. I. D. Martin (Department of Geophysics and Geochemistry).
'A study of $^{15}$N between 20 and 30 MeV excitation'. J. M. Poate (Department of Nuclear Physics).
'Narrow band photometry of Wolf-Rayet stars'. Lindsey F. Smith (Department of Astronomy).
'Rubidium-strontium isotopic studies in the Kalgoorie-Norseman area, Western Australia'. A. Turek (Department of Geophysics and Geochemistry).
'Non-radial oscillations and vibrational stability of massive stars initially composed of pure hydrogen'. Wan Fook Sun (Department of Mathematics).
'Plastic deformation of magnesium oxide'. C. W. Weaver (Department of Geophysics and Geochemistry).
'Southern planetary nebulae'. Betty L. Webster (Department of Astronomy).
'Two problems in the geometry of numbers'. Patricia J. Gaudry (Department of Mathematics).
'Tracer diffusion in liquids'. J. F. Tilley (Diffusion Research Unit).

§§ A member of the Department of Nuclear Physics.
‡ Not a member of this University.
As in previous years, much of the focus of research in the School was upon Australia but 1967 saw some further extension of the research interests to external areas. In some cases, as in political science and demography, these extensions concerned mainly New Guinea and South-East Asia and this new work has involved increasing co-operation with relevant departments of the Research School of Pacific Studies to ensure that it complemented the major interests of that School. In other cases, particularly in history, philosophy and the history of ideas, the external interests have been both in applied work in more distant areas (e.g. India) and in the exchange and dissemination of theoretical concepts through the publication of research results in international journals and in lectures, discussions and seminars by staff while on study leave or attending international conferences.

These positive contributions by the School have been accompanied again by a steady inflow of visitors who have continued to stimulate research both of staff and students. In 1967 twenty-three such visitors were associated with the School, of whom nineteen came from overseas and four from within Australia.

During the year a heavy program of seminars was sustained. Some of these, led by visitors, provided admirable opportunities for cross-disciplinary discussions, but many of them were of the 'work-in-progress' variety associated with the departmental research projects of staff and students. While seminars of this latter type are now accepted in all departments as an essential part of student training, as well as of the progress of staff research projects, their frequency tended to limit the scope for interdisciplinary seminars. The experience of 1967 perhaps suggests that the question of balance between the specialised and more general seminar should be examined.

The year saw some improvement in both the quality and quantity of applicants for scholarships, reflecting the beginnings of the increased outflow from our universities of the very large increase in births in the late 'forties' and early 'fifties', as well as of the higher proportions of each age completing degrees. A steady flow of applicants also continued from overseas, and for some departments (e.g. Sociology and Demography) which have as yet little underpinning in the Australian university system, overseas recruitment continued to be an important source of students. Almost all students continued to hold University or other scholarships. Fifty-two enrolled at beginning of the year; twelve from Australia and eight from overseas appointed during the year; fifty-eight enrolled at end of the year; twelve graduated for the degree of Doctor of Philosophy during the year.

The improved situation in 1967 with regard to student recruitment was, unfortunately, not as evident at the staff level. The situation eased in some of the more 'traditional' fields of social science which are strongly represented in Australian universities, but it continued to be difficult in areas in which the university has to compete with attractive employment opportunities in business and industry or where, as already indicated, the subjects are as yet weakly represented in Australia. As with student recruitment, this last category continued to rely heavily for its staffing upon overseas sources.
The recruitment problem was magnified to some extent by resignations to take up posts elsewhere. In small departments carrying on principle a high proportion of temporary staff this is an inevitable process, particularly by younger staff seeking promotion, and in so far as this process serves to interchange highly qualified staff with other Australian universities it may be accepted as desirable; but is does nevertheless exacerbate the recruitment problem.

At the beginning of the year the academic staff numbered fifty-four. There were six resignations during the year (Department of Demography, 2; Department of Philosophy, 2; Department of Political Science, 1; and Archives 1) of which two left to take up appointments outside Australia and the remaining four were appointed at other Australian universities. Eleven appointments were taken up (Department of Political Science, 4; Urban Research Unit, 2; Department of Economic History, 1; Department of Economics, 1; Department of Sociology, 1; Department of Statistics, 1; and Archives, 1) and at the end of the year the academic staff in the School numbered fifty-nine. A further seven posts had been offered or accepted but had not been taken up by December, leaving twelve established posts to be filled.

Formal advertisements seeking staff were frequently accompanied by intensive departmental inquiries, but such endeavours often yielded low returns. While the search might have been more intensive in some cases, there is no doubt that most of the fields represented in this School were still faced in 1967 with a serious, if slightly easing, problem of scarce supply. This scarcity is likely to remain for some time, not only within the School but also elsewhere in the social science fields represented here—a situation which may suggest, that the time is appropriate, not only for stepping up the recruitment program, but also for undertaking a thorough examination of the academic structure of the School to ascertain if it is recruiting with maximum efficiency in a highly competitive market situation.

New academic developments in 1967 included the appointment of Professor A. W. H. Phillips to a second chair in the Department of Economics. Professor Phillips has special interests in the econometric approach to economic affairs and in the economy of Communist China. Mr D. S. Anderson was appointed professorial fellow and will assume duties in 1968 in charge of the new Education Research Unit.

Against these gains there was some loss of senior staff. Dr R. T. Appleyard (Demography) left in May to take up the Foundation Chair of Economic History at the University of Western Australia; Dr J. C. Caldwell (Demography) left for New York in November to become Regional Director in Africa of the Population Council; Mr D. J. Whalan (Law) was appointed to a chair of law at the University of Queensland and will take up his duties there in 1968.

In the Department of Demography 1967 saw the completion of Dr Caldwell’s African Studies, with two books in the press, and the publication of Dr Norma McArthurs Island Populations of the Pacific. A new project was initiated on the population of New Guinea; further work was done on recent trends in Australian marriage and fertility; and plans were laid for a major expansion of immigration studies through the close association of the Department, with the ‘major project’ on this subject which was launched by the Social Science Research Council of Australia. During the year the Department also undertook the major part of the organisation of the Regional Conference of the International Union for the
Scientific Study of Population, held in Sydney in August to discuss population trends of the ECAFE region. Approximately thirty overseas demographers subsequently attended a seminar at the University to discuss with the Department developments in demographic training and research in universities.

In the Department of Economic History the primary concern continued to be the identification and analysis of Australia's experience of long-run economic change. Work proceeded along three related lines: the preparation and interpretation of historical series of economic and social accounting data; the study of business, institutional, and industry histories; and international comparison with the growth experience of other countries. The Department again conducted seminars in association with economic historians in other parts of the University and several lecture courses were given by members of the staff.

The Department of Economics directed its main attention to current economic conditions and theories of capital and growth. Aspects of specific interests to staff members included oil and shipping, trade practices, weekly and annual cycles in economic time series and age mis-statement in census and demographic statistics. A history of the Melbourne Stock Exchange was completed and a volume of readings in monopoly and competition was in preparation. Students have been engaged in studies of technical progress; individual firms' investment policies and motives; the electric generation industry; the Australian protective system; and wages policy.

In the Department of History the main field of research, among staff and students, continued to be in Australian and related history. The Department hopes to make the national capital a specialist centre for the study of Australian federal history, although this hope cannot be fully realised until the actual state of access to nominally 'open' material in the Commonwealth Archives begins to compare favourably with that in the United Kingdom, Canada and the United States of America. Work proceeding in this field included studies of the federal conventions, Commonwealth-State relations in the first decade, and war-time politics and administration, 1914-19. An incidental contribution to international relations was made by the Department's work in modern Indian history.

The Department continued to be responsible for the central organisation of the Australian Dictionary of Biography, a project of national interest. Two volumes have now been published, covering the period 1788-1850, and the work is proceeding. With the National Library of Australia, the Department continued joint sponsorship of a project to list and describe the manuscript materials in the United Kingdom relevant to Australian history. This work will continue into 1968.

The balance between theoretical and applied work in the Department of Law was illustrated by the activities of Mr D. J. Whalan's inquiries into computerisation of land registration. This project involved basic re-examination of relevant concepts, and Mr Whalan's work on the Attorney-General's Committee for the introduction of strata titles in the Australian Capital Territory encountered considerable theoretical difficulties, since principles designed for freeholds had to be applied to leaseholds. Similarly, work by the international lawyers on the theory of peace was at a theoretical margin of contemporary speculation about world affairs, but they also continued their collection of materials on Australian diplomatic history and practice. The Department wishes to maintain some contact with all major fields of law, and for this reason sponsored a conference on
the law of torts, otherwise a subject not within the immediate scope of any staff member. Work on Papua and New Guinea was expanded by the allocation of a studentship for the special study of land tenure problems.

The Department of Philosophy continued studies of key-problems in moral, political and educational philosophy and the understanding of man’s intellectual history. Recognition of its work in these fields was revealed in the Encyclopedia of Philosophy published in 1967, where most of the major articles on political and social philosophy and many of the articles on the history of political, philosophical and scientific ideas were written by present or former members of the Department. The Department has also prepared a volume of essays to illustrate Australian philosophy, written by philosophers throughout Australia, which will be published to stand alongside comparable volumes on British and American philosophy. As the year closed, the Department was giving major attention to problems in the general theory of education, especially at the tertiary level, as well as to problems relating to major forms of political actions.

In the Department of Political Science the main development in Australian studies was the completion of the first of three surveys of the political attitudes and behaviour of a national sample of voters. This project, which will run over several years, is designed on lines comparable with work in other countries, particularly at the Universities of Michigan and Oxford. Dr D. E. Butler of the University of Oxford, spent six months as visiting fellow associated with this project. The first survey yielded data that will facilitate a number of pioneering studies on the relation between class, occupation, personality, religion and national origin on the one hand, and political attitudes, voting habits and party adherence on the other. The third and final survey will be part of a multiple-country study of comparative public opinion on aspects of political legitimacy and stability. A related student project was reappraising the supposed influence on political attitudes of such psychological dispositions as authoritarianism, alienation, anxiety and ethnocentrism. Another new development was the appointment of a senior fellow interested in identifying the basic political ideas and assumptions of such groups as political parties, churches, trade unions, and organised economic interests.

Continuation of previous work resulted in the completion of a book on the Australian Labor Movement between the world wars, and of a biography of the New South Wales Country Party leader, Sir Michael Bruxner. Students continued studies of the Liberal Party in Victoria, of foreign affairs and defence policies in the various Labor Parties, and of the political activities of primary producer organisations.

In the international field, Of Powers and their Politics by Professor A. L. Burns went to press and other work examined quantitative approaches to international politics, the relation between Western integration and German reunification, and the implications for their national policies of participation by United Nations members in peace-keeping operations. In Soviet studies books were completed on the Soviet Union Communist Party and on Krushchev’s ‘Secret Speech’ and related documents and a one-year study, supported by the Ford Foundation grant to this University, was begun on the economic growth in the Soviet Far East and its implications for Australia. Work also continued on government and administration in Australian New Guinea and on the political leadership in Malaysia.
The other principal innovation was a series of seminars on Australian politics in practice, enabling leading parliamentarians, party organisers, public servants and political journalists to discuss with academic staff and graduate students their first-hand experience.

In the *Department of Sociology* work continued in the three areas of social stratification, religion and urban structure. A study of the social areas of Melbourne was completed and substantial progress was made in the analysis of survey and census material relating to social stratification and religion in Australia. A new field, the sociology of education, was added to the Department’s interests, with one staff member and two students working in this area.

The Department again played an active role in the Sociological Association of Australia and New Zealand, including the editorship of its journal. The staff also continued to carry a major part of the course work and supervision of the degree of Master of Arts in sociology in the Faculty of Arts—a task that is likely to continue until an approved lectureship in the School of General Studies can be filled.

In December steps were initiated to advertise again for a Professor of Sociology, following the failure to fill this chair in 1966. Despite this failure, this small Department with four staff and four students, has maintained a steady development in its research work and through its seminars in sociological theory has provided a significant interdisciplinary link with other departments.

The *Department of Statistics* continued its studies in probability theory and mathematical statistics and the applications of these subjects to other sciences. Amongst these applications are a detailed study of earthquake shocks, regarded as a random process in time, the use of classificatory methods in psychiatry and other branches of medicine, psychiatric epidemiology and genetics, and queueing systems with several ‘servers’ such as occur in telephone trunking systems. Apart from a number of other more purely mathematical problems a good deal of work has been done on problems of ‘geometrical probability’ such as the random division of space into cells, and various methods of measuring the lengths and areas of curves. Very close collaboration has been maintained with the Department of Statistics in the School of General Studies.

Under the leadership of Dr G. M. Neutze, and with two supporting academic staff, the *Urban Research Unit* commenced work on a major research project—the process of urban development. The project is examining in considerable depth, in four limited case study areas in metropolitan Sydney, the way important decisions affecting and comprising urban development are made. It will look especially at the role of public bodies and their relations with private land owners and developers. Work on the Australian Capital Territory Road Collision Study was nearly completed and is being prepared for publication. The Joint Urbanisation Seminar was continued during the year and the two sessions dealt with high investment public services, and physical planning in Australia. A doctoral thesis was commenced on the costs of urban growth in Melbourne.

The *Education Research Unit* formally started with the appointment of a professorial fellow, Mr D. S. Anderson, to direct it and with the advertisement for initial supporting staff. The Unit received a grant from the Commonwealth Advisory Committee on Advanced Education towards a study of students who
will be commencing courses in the College of Advanced Education throughout Australia. Mr Anderson will continue a study he is making of professional education in Australian universities. The Unit has also agreed to make a study for this University of its part-time students. These steps ensure the commencement of active research early in 1968.

Finally, research workers throughout the School have been making increasing use of computer analyses, thus imposing heavy burdens upon the small Computer Section in the School. Towards the end of the year an additional programmer was appointed.
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APPLEYARD, R. T.


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* Not a member of this University.
† Based on work done prior to joining this University.
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Hoare, M. E.


* A member of the Urban Research Unit.
† Based on work done while a member of the Department.
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*Not a member of this University.*
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* Based on work done while a member of the Department.
† Based on work done prior to joining this University.
‡ Visiting Research Worker.
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Seneta, E.‡ & Vere-Jones, D.

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* Based on work done while a member of the Department of Demography.
† Not a member of this University.
‡ A member of the Department of Statistics, School of Statistics, School of General Studies.
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**Theses**

Thesis titles of work successfully submitted by research students in the Research School of Social Sciences:

**Doctor of Philosophy**

'Australia and the European crises 1935-1939'. E. M. Andrews (*Department of History*).

'Stochastic problems in transport theory'. P. J. Brockwell (*Department of Statistics*).

'A history of the Australian typographical societies and the Printing Industry Employees' Union of Australia, 1850-1927'. J. S. Hagan (*Department of History*).

'AFghanistan, Britain and Russia 1905-21'. W. M. Hale (*Department of History*).

'The population of Korea, 1910-1945'. Y. Kim (*Department of Demography*).

'Emerging international law rules governing exchange controls as to foreign investments (transfer of funds)'. R. Krishna (*Department of Law*).

'The sources and development of Australian mining law'. L. W. Lloyd (*Department of Law*).

'Explanations of moral failure'. D. J. Mallock (*Department of Philosophy*).

'The Greek Macedonians of Shepparton: A study of immigrant assimilation in a rural area of Australia'. J. R. Mapstone (*Department of Demography*).

'Political movements: Three case studies of protest'. Sondra J. Silverman (*Department of Political Science*).

'Land transfer, social change and political stability in the Punjab, 1849-1901'. P. H. M. Van Den Dungen (*Department of History*).

'Differential fertility in Lahore, Pakistan'. F. Yusuf (*Department of Demography*).

* A member of the Department of Economic History, Research School of Social Sciences.
† Based on work done while a member of the Department of Economics, School of General Studies.
THE RESEARCH SCHOOL OF PACIFIC STUDIES

REPORT OF THE DIRECTOR

Professor O. H. K. Spate

The most significant event in the School's annals for 1967 was the relinquishment of the Directorship by Professor Sir John Crawford, consequent on his appointment as Vice-Chancellor of the University. The Research School of Pacific Studies owes an immeasurable debt to Sir John's leadership over the last seven years, and the new Director is very conscious of the magnitude of the responsibility involved in the succession. It is with confidence as well as cordiality that the School extends its best wishes to Sir John for his time as head of the University.

The retirement of Professor C. P. FitzGerald from his position as Head of the Department of Far Eastern History does not end an association with the University which goes back to February 1950; for some time he will remain with us as a visiting fellow in the Department of International Relations, and his genial presence in the School will therefore not be immediately missed. It was with very real regret that the School learnt of the serious illness of Dr Emily Sadka and her consequent retirement from the Department of Pacific History.

A good deal of time and energy was taken up during the year in preparing the submission for the fourth triennium (1970-72). This submission does not propose any spectacular new departures, but it does provide not only for a strengthening of existing activities, but for a certain shift of emphasis. While there is no intention of a retreat from the strictly Pacific field, it seems fair to say that any marked expansion of research in the Pacific Islands would be likely to show diminishing returns; it may, however, be possible to secure outside assistance for a much needed round-up operation, to synthesise and to draw out any general implications from the findings of the great mass of research carried out in this area since the war, to which the School's contribution has been not the least notable. New Guinea will probably always remain a prime centre of interest for several of our departments but in a number of departments there is a general feeling that more attention should be given to South-East Asia, and in some for more work on contemporary China and Japan.

These interests have indeed been present in the School from the beginning, and were for example strongly stressed in Sir Frederick Eggleston's memorandum of February 1949, a key document in the foundation of the School. All departments have in fact done some work in South-East Asia and some have developed a specialised interest in particular countries or topics. It is hoped, however, to provide a more systematic coverage; while it is recognised that an attempt to cover the whole ground would lead to diffusion and duplication of work done elsewhere, it is yet felt that other things being equal, future appointments policy should foster this trend. All will depend, however, on the availability of really suitable recruits.

Important decisions on the organisation of the School were made during the year. These will involve the formation of three new departments by fission from existing ones: Linguistics and Prehistory from Anthropology and Sociology, and 'Environmental Studies' (the title is tentative) from Geography.
As regards Linguistics and Prehistory, their eventual attainment of autonomy was recognised as a possible development when work in these fields was initiated; each is universally recognised as a distinct discipline in itself, and there has in fact been some devolution in their administration within Anthropology and Sociology. Each has now reached a point in its growth where separate organisation is academically desirable.

The position as between Geography and 'Environmental Studies' is more complex. The latter will continue the research now being done in biogeography and geomorphology, some of which is pioneer work at least in an Australian context. The tradition of the Department of Geography has been to stress so far as possible the unity of the physical and human or social wings of geography; but with increasing numbers, and still more with ever increasing technology and sophistication, a possible fission was foreshadowed as long ago as 1963. The decision to implement it has not been reached without long, careful, and often reluctant consideration; and it may be mentioned that this decision is based on the specific needs of a department devoted to research, some of it of a fundamental nature, and would not be appropriate in one with a major interest in undergraduate training. Although in the undivided department with its emphasis on field-work, the large demand for complicated equipment, and the responsibility for cartographical services to the two Schools, the administrative burden was a heavy one, this problem in itself could have been met by extending the existing devolution of responsibilities, which had proved itself effective. Basically, however, the decision to divide reflects not so much an effort to cope with an administrative inconvenience as academic considerations: it reflects an increasing depth of sophistication in both the human and the physical wing, which carried with it a sophistication both technological (in terms of equipment, computerisation, and so on) and theoretical. Apart from the fact that this makes it almost impossible for the head of an undivided department to have a really adequate grasp of all its activities, both wings have now reached a stage of development in which their research frontiers can best be expanded, and the research itself intensified in depth, by a separate organisation. Furthermore, the external relations of 'Environmental Studies' with Prehistory, and of social and economic geography with Anthropology and Sociology and Economics, are likely to be made simpler and more effective by this streamlining.

For the most part departmental activity has proceeded along established lines, but there have been some exciting rewards to these endeavours. In the Department of Anthropology and Sociology and its associates prehistory and linguistics, these include the demonstration of human occupation in Arnhem Land 20,000 years ago and of developed agriculture in New Guinea as far back at 350 B.C.; in these researches close collaboration with the radiocarbon dating laboratory in the Research School of Physical Sciences has been invaluable. This is true also of the Department of Geography, where the most notable development has been pioneer work towards the use of computers as a tool in pollen identification; the Department has been a pacemaker in Australian palynological studies. There has been increased emphasis on studies of contemporary China in the Departments of Economics and International Relations; the School has been fortunate in securing, as a replacement for Professor FitzGerald in the Department of Far Eastern History, Professor Wang Gungwu of the University of Malaya; this appointment will greatly strengthen the modern component in that Department's research. The continuing publication by the Department of Economics of its Bulletin of Indonesian Economic Studies is providing a valuable service and has
attracted wide attention. The Strategic and Defence Studies Centre is already making its mark. In the Department of Pacific History, preparations have been made for the launching of a Pacific Islands Manuscripts Clearing Centre; the Department will organise this Centre on behalf of, and with financial support from, a number of major libraries in the United States, Australia and New Zealand. The New Guinea Research Unit broke new ground with the first Waigani Seminar, sponsored jointly with the University of Papua-New Guinea, the Administrative College at Port Moresby and the Council on New Guinea Affairs. The theme was ‘New Guinea in Transition’ and the seminar covered a wide range and attracted wide attention.

Staff recruitment has at times given concern, but there were signs of improvement towards the end of the year. On 31 December seventy-seven students were working for the degree of Doctor of Philosophy and three not proceeding to the degree.

The School has developed research interests which could easily absorb greater sums than are available from normal sources. It has been fortunate in receiving support by significant grants from the Ford Foundation ($US300,000 for a three-year-period) and the Reserve Bank of Australia, the latter in the form of specific funds for projects in New Guinea. The Ford Foundation grant is being used principally to support contemporary Asian studies in the Departments of Economics and International Relations.

In the Department of Anthropology and Sociology the work of all three sections—social anthropology and sociology, linguistics, and prehistory—continued during the year along established lines. In social anthropology and sociology the main focus of research remained the traditional and changing cultures of New Guinea, along with other inquiries in Aboriginal Australia, Fiji, Samoa and Thailand. Field inquiries continued to reveal the complexity and subtlety of many indigenous social institutions, and the diversity of the ways in which these have been modified in response to changing contemporary conditions. Some research was conducted among peoples in the Western Highlands of New Guinea who have come under effective Australian administration only within the last two years while other investigations are in progress concerning village life in Thailand and India where there has been contact with developed civilisation for millenia. Inquiries were made among Aborigines living by hunting and collecting in bush camps in Arnhem land, and among indigenous industrial workers in Port Moresby, and preparations were made for a co-operative study of the 1968 elections to the House of Assembly, Territory of Papua and New Guinea. The refinement of analytical tools adequate for delineating and understanding so wide a range of human social activities continues as a major intellectual challenge to all members of the Department. In linguistics studies were made in various aspects of languages spoken in Aboriginal Australia, New Guinea and other parts of Oceania, North Borneo, Vietnam and Thailand. New light was thrown on the probable spread of languages in the Pacific region during the last five or six millenia. Many previously unrecorded languages spoken in New Guinea and Borneo were analysed and some dictionaries were compiled. Work in prehistory was concentrated in Australia, Papua-New Guinea, Timor, and on the distribution of pottery in the South Pacific. Human occupation of Arnhem Land 20,000 years ago was demonstrated and other finds...
showed the presence of the Tasmanian devil in tropical Australia 3,000 years ago. In New Guinea, developed agricultural systems were discovered in the Western Highlands dating back to 350 B.C. The radiocarbon dating laboratory located in the Research School of Physical Sciences and with which the Department is associated, completed a very successful first full year of operation.

The broad range of research interests of the Department of Economics remained unchanged but planning began, in co-operation with other departments in the School, for the development of research in two hitherto relatively neglected areas, both in different ways important to Australia, contemporary Mainland China and the islands of the South Pacific. Only one major book, on economic development in Thailand, was published during the year, but a number of major projects were brought close to completion and should be published in 1968. Great difficulties were encountered in attracting good new research staff to the specialised work of the Department in the current state of the market for economists in Australia. Recruiting problems have particularly hampered the Indonesian project, but progress was made with some research projects. The Australian National University Press took over responsibility for publication of the Bulletin of Indonesian Economic Studies. Three students qualified for the degree of Doctor of Philosophy, three others came close to submission of their theses and three new scholars were recruited. Most senior members of the Department served as advisers or consultants to international agencies or national governments during the year. Most also lectured in the School of General Studies or at other Australian universities.

In the Department of Far Eastern History the vacant post of senior fellow was filled in October by the appointment of Dr H. M. Lo, formerly senior research fellow in the Department.

The enrolment of research scholars at the end of the year was eight. During the year two research scholars completed their courses and submitted their theses for examination. Three of the present research scholars come from South-East Asia, two are Australians, one English, one a New Zealander, and one an American citizen. Three are working in the field of modern Chinese history, three in earlier Chinese history, one in modern and one in mediaeval Japanese history.

Research by members of the staff in these fields continues. At the end of the year, Professor C. P. FitzGerald retired from the Chair of Far Eastern History. Two new staff members joined the Department of Geography during the year. Recruitment of new scholars did not quite match departures though the total in 1967 as a whole was greater than before. Seven theses were submitted of which four had been approved for the degree of Doctor of Philosophy before the year’s end.

New fields of research for the Department were broached by Dr Helena E. Reeve (plant shape in relation to environment) and Dr P. W. Williams (modern methods of quantitative analysis of landform). The employment of computer facilities has now spread virtually through all branches of study in the Department and more elaborate methods of data analysis were adopted in several directions. The most significant development in computer use was as a tool in pollen identification. The inevitably long period of preparation involved in
inaugurating palynological work is now giving way to a phase of fruition; Mr W. H. Litchfield established two major vegetation changes from a study of an Australian mineral soil and Mr J. R. Flenley provided the first description of prehistoric vegetation change in New Guinea. Much closer association than previously was developed with the University's radiocarbon dating laboratory during the year.

Two investigations—Dr H. C. Brookfield's urban studies in Vila in the New Hebrides and Mr J. K. Johnson's inquiry into the relation between road transport and the Northern Territory beef cattle industry—found external financial support.

Pressure on the Department's accommodation in the H. C. Coombs Building became very great during the year and recourse was had to various improvisations and temporary modifications to cope with this.

Two events made 1967 the most distinctive since the foundation of the Department; one was the decision in principle by the University to divide it into two and the other was the relinquishment of the headship by its first professor on his becoming Director of the Research School. The human geographers will comprise the continuing Department of Geography whereas the staff and students concerned with the human environment in itself will form a new department.

The Department of International Relations continued to strengthen its work in international theory, Asian politics and Australian foreign and defence policy. The staff was increased by the arrival of Professor H. N. Bull, Mr J. T. G. Jukes and Mr J. H. Brimmell.

During the year sixteen students were at work for the degree of Doctor of Philosophy. New topics included a study of the 'domino theory', nuclear politics in Asia, guerilla warfare in South-East Asia, and relations between China and Vietnam. Members of the staff began studies of Chinese policy in Asia, the conditions of international order, and the Asian balance of power. It is hoped to intensify further study of China in 1968.

The Department organised one major conference on relations between India, Japan and Australia, and took part in others. Good relations were maintained with the Department of External Affairs, a senior officer from which, Mr G. A. Jockel, spent six months in the Department as a Public Service Fellow.

The major research projects undertaken during the year in the New Guinea Research Unit were concerned with the Papua-New Guinea House of Assembly, the extent of and potential for industrial development, emerging indigenous business men, indigenous markets and economic motivation among indigenous people. Nine issues of the New Guinea Research Bulletin were published and several more were in preparation.

Financial assistance was provided during the year by the Australian-American Educational Foundation, the Reserve Bank of Australia and the Ford Foundation through the University of California.

While the South-East Asian work of the Department of Pacific History received an unfortunate set-back with the illness and subsequent retirement of Dr Emily Sadka, the Pacific Islands section consolidated and extended its activities on the now established dual basis of carrying out its own research program while at
the same time acting as the focal centre for regional historical research being conducted throughout the world. In its primary function as a research organisation three books were published by members of the staff, covering Samoa, the Western Pacific High Commission and the New Hebrides, while four more were completed and accepted for publication. In its subsidiary capacity the second volume of the *Journal of Pacific History* was issued and it became evident that the annual is now accepted as the professional organ for Pacific historians, with subscribers in fifty-seven countries and an encouraging stream of contributors and correspondence. The first two books in the Pacific History Series were in process of publication, while two more, together with another in the subsidiary Pacific Monograph Series, were virtually completed at the end of the year. In what is hoped will become an important edition to these servicing facilities for Pacific documentation-based studies the Department agreed to the request of a group of major Pacific research libraries in the United States, Australia and New Zealand to undertake the organisation and operations of a Pacific Islands Manuscripts Clearing Centre, with the assistance of a grant-in-aid from each of the participating bodies. With the appointment of a manager in December, it is hoped that the Centre will be in operation by mid-1968. Seven students working for the degree of Doctor of Philosophy were attached to the Department at the commencement of 1967 and an additional seven were granted scholarships during the year. Four students had their degrees conferred, one was approved for the award of a degree and one withdrew without submitting a thesis.

The *Strategic and Defence Studies Centre* was established in 1966, being attached to the office of the Director, Research School of Pacific Studies, and operating substantially within the Department of International Relations. From July 1967, the Centre had the benefit of financial assistance from the second Ford Foundation grant to the University. This grant enabled the reference facilities to be extended, a research fellow to be appointed, and the holding of a major conference in September on the implications for Australia of withdrawal of Britain from Asia. Representatives of five Australian universities took part in this conference, as did also diplomats from a number of Commonwealth countries, members of Parliament on both sides, government officials and journalists. The conference was private, but an edited report of its proceedings has been published by the Australian National University Press.

The Centre conducted a series of shorter seminars throughout the year, on a wide range of subjects of defence and strategic interest. These seminars have been open to all members of the University, and to officials from relevant government departments by arrangement.

The Centre is attracting considerable attention both within Australia and overseas, and has continuing contact with such bodies as the Institute for Strategic Studies, London, and the Rand Corporation in the United States.

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'Pitcairn Island,' 'Tonga Islands.' In *Encyclopaedia Britannica, 1967.*

PEARSON, W. H.**
'Lawson manuscripts in New Zealand and a note on Lawson's autobiographies.' *Biblionews, II, iii-iv, 6-14.

ROFF, W. R.*
*The Origins of Malay Nationalism.* Yale Univ. Press, xx + 297.

SCARR, D. A.

SHINEBERG, DOROTHY L.
*They Came for Sandalwood.* Melbourne Univ. Press, xiv + 299.

STONE, D. J.

TERRELL, JENNIFER
'Bibliography of current publications. Part II—Articles.' *Journal of Pacific History, II, 205-14.*

* Based on work done while a member of the Department.
** Based on work done prior to joining this University.
WARD, A. D.*
'Unpublished parliamentary papers: A comment on untapped source material on New Zealand history.' N.Z. Jl hist., I, i, 93-4.

WEST, F. J.

MILLAR, T. B. (ed.)
Britain's Withdrawal from Asia. Its Implications for Australia. The Australian National University, iv + 114.

T H E S E S
Thesis titles of work successfully submitted by research students in the Research School of Pacific Studies:

'Eduction, values and Japan's national identity'. J. G. Caiger (Department of Far Eastern History).

'The blockfields and associated features of Northeastern Tasmania'. T. N. Caine (Department of Geography).

'Denudation rates and water chemistry of selected catchments in Eastern Australia and their significance for tropical geomorphology'. I. Douglas (Department of Geography).

'The developing capital market in Malaya'. P. J. Drake (Department of Economics).

'Public finance in the Malayan Territories'. C. T. Edwards (Department of Economics).

'The charter of the land'. P. France (Department of Pacific History).

'Protestant missions in the Solomon Islands 1849-1942'. D. L. Hilliard (Department of Pacific History).

'Australia and the colonial question at the United Nations'. W. J. Hudson (Department of International Relations).

'A contrastive phonological and grammatical study of English and Vietnamese'. N. D. Liem (Department of Anthropology and Sociology).

'Suburban business centres in four Australian cities'. C. D. Morley (Department of Geography).

'The economics of educational planning with special reference to underdeveloped countries'. P. Ninh-van-Tu (Department of Economics).

'National accounting in under-developed countries with special reference to Thailand'. P. Panitpakdi (Department of Economics).

'Ts'ai Yuan-p'ei (1868-1940) and his contribution to modern education in China'. Png Poh-seng (Department of Far Eastern History).

'Shirley Baker and the Kingdom of Tonga'. N. Rutherford (Department of Pacific History).

'Nineteenth century Johore. Ruler and realm in transition'. C. H. H. Wake (Department of Pacific History).

'People, land and government in Suva, Fiji'. J. W. Whitelaw (Department of Geography).

* Based on work done while a member of the Department.
THE RESEARCH SCHOOL OF CHEMISTRY

REPORT OF THE DEAN
Professor A. J. Birch, F.A.A., F.R.S.

Under the first professors appointed (A. J. Birch, Dean and Professor of Organic Chemistry, and D. P. Craig, Professor of Physical and Theoretical Chemistry), the School began in 1966 to gather research staff and students in England, and took over the Biological Inorganic Chemistry Unit from the John Curtin School of Medical Research.

On 1 September 1967, the members of the School began work in a new building constructed to the highest current standards for scientific laboratories. A major consideration in setting up the School was to enable it to attack problems too difficult experimentally or theoretically, too long-term, or too speculative for most other Australian institutions. To this end the School contains the most modern and sophisticated equipment for mass-spectrometry, nuclear-magnetic and electron spin resonance and various optical measurements, and has appointed academic and technical staff familiar with the operation of the equipment and the interpretation of the results.

By the end of 1967, after an excellent recruiting experience, the academic staff numbered twenty-four, and there were two visitors. Thirteen students were working towards the degree of Doctor of Philosophy, while the technical and supporting staff totalled thirty-eight. The School is organised on an integrated basis, with minimum emphasis on traditional divisions of the subject; its policy is to pursue a wide range of chemical studies, and it has the most flexible structure possible in order to promote cross-fertilisation of ideas and techniques and work on borderline subjects.

The research subjects pursued now in the School have been chosen primarily because they are lively, challenging and difficult topics, of fundamental interest in the strict sense of the term. Some are not being investigated adequately elsewhere in this country, and many of them have potential long-term applications in the Australian environment.

In the field of organic chemistry the subjects of research include the examination of biologically active natural compounds in Australian plants and insects, for example, insect attractants and hormones which offer possibilities of specific insect control. The structures of antibiotic compounds, particularly antifungal agents, are being examined, and studies of biosyntheses on moulds. The total synthesis of biologically active compounds is being examined, for example, of the insect hormone juvabione. Some emphasis is being given also to borderline areas of research between organic and inorganic chemistry, as in some new reactions depending on the attachment of a heavy metal atom to a complex organic molecule. This overlaps with inorganic chemistry, a field which is being emphasised in view of long-term possibilities in this country.

The main effort in inorganic chemistry is in the study of the stereochemistry and mechanism of inorganic reactions and the study of organometallic complexes. In physical chemistry work is concentrated on a number of themes, particularly in spin resonance and optical spectroscopy. Here the bringing together of specialised and often expensive techniques draws within reach new and difficult problems in solid state chemistry. These studies are at an important growing
point in modern chemistry and have connections with current technological advance. The work in experimental physical chemistry is supported by a strong theoretical group.

Further areas, such as synthetic photochemistry particularly involving sunlight, are in contemplation with expansion of the School.

PUBLICATIONS

BENNETT, M. A., CLARK, R. J. H. & GOODWIN, A. D. J.
‘Electronic and infrared spectral study of chromium(III) derivatives of the type [Cr(NCS)₄(ligand)₂].’ Inorg. chem. 6, 1625.

BENNETT, M. A., CLARK, R. J. H. & MILNER, D. L.
‘Far infrared spectra of complexes of rhodium and iridium with -bonding ligands.’ Inorg. chem., 6, 1647.

BENNETT, M. A., ERSKINE, G. J. & NYHOLM, R. S.

BIRCH, A. J., DAHL, C. J. & PELTER, A.

BIRCH, A. J., HOLZAPFEL, C. W. & RICKARDS, R. W.
‘The structure and some aspects of the biosynthesis of pleuromutilin.’ Tetrahedron, Supplement 8, 359.

BIRCH, A. J., MACDONALD, P. L. & PELTER, A.

BUCKINGHAM, D. A. & COLLMAN, J. P.
‘The reaction of the hydroxoaquobis (ethylenediamine) cobalt(III) ion with amino acids and dipeptides and their esters and amides.’ Inorg. chem., 6, 1803.

‘Hydrolysis of N-terminal peptide bonds and amino acid derivatives by the hydroxoaquotriethylenetetramine cobalt(III) ion.’ J. Am. chem. Soc., 89, 1082.

BUCKINGHAM, D. A., DURHAM, L. & SARGESON, A. M.

BUCKINGHAM, D. A., GORGES, R. C. & HENRY, J. T.

‘The polymeric nature of bis (acetylocetonato)-, bis (trifluoroacetylacetonato)- and bis (2, 2, 6, 6,- tetramethylheptane-3, 5-dionato)- iron(II).’ Aust. J. Chem., 20, 281.

BUCKINGHAM, D. A. & MARZILLI, L. G.
‘The stereochemistry of some cobalt(III) triethylenetetramine complexes of glycine and sarcosine.’ Inorg. chem., 6, 1042.

BUCKINGHAM, D. A., MARZILLI, L. G. & SARGESON, A. M.
‘Racemization and deuteration at the asymmetric nitrogen center of the N-methyl ethylenediamine tetrammine cobalt(III) ion.’ J. Am. chem. Soc., 89, 825.

‘Peptide formation and subsequent hydrolysis at a cobalt(III) center.’ J. Am. chem. Soc., 89, 2772.

‘Racemization and proton exchange in the trans, trans, dinitrobis (N-methyl ethylenediamine) cobalt(III) ion.’ J. Am. chem. Soc., 89, 3428.

‘N-terminal addition of glycine to amino acid peptide esters activated by the cobalt(III) ion.’ J. Am. chem. Soc., 89, 4539.


§§§ A member of the Electron Microscope Unit.

94
BUCKINGHAM, D. A., MARZILLI, PATRICIA A. & SARGESON, A. M.
'Stereo-chemistry and rearrangement and some triethylenetetramine disubstituted cobalt(III) ions.' *Inorg. chem.*, 6, 1032.

BUCKINGHAM, D. A., MARZILLI, PATRICIA A., SARGESON, A. M., MASON, S. F.; & BEDDOE, P. G.‡
'The absolute configuration of \((\pm)_{S,S}^5\)trans-Dichlorotriethylenetetramine cobalt (III) ion.' *Chem. Comm.*, 433.

BUCKINGHAM, D. A., OLSEN, INGE I. & SARGESON, A. M.
'Induced aquation reactions of the resolved azidochlorobis (ethylenediamine) cobalt(III) ion.' *Inorg. chem.*, 6, 1807.
'Stereochroemistry of the base hydrolysis of trans- \((\textrm{Co (NH}_3)_4 (\textsubscript{15}\textrm{NH}_3)X)^2+\) ions.' *J. Am. chem. Soc.*, 89, 5129.

BUCKINGHAM, D. A., OLSEN, INGE I., SARGESON, A. M. & SATRAPA, H.
The mechanism of substitution reactions of pentammine-cobalt(III) complexes. Product distributions in the induced aquation of some \((\textrm{Co(NH}_3)_5X)^2+\) ions in the presence of added anions.' *Inorg. chem.*, 1027.

CUDLIN, J.‡, PŮZA, M.‡, VONDRAČEK, M.‡, VANEK, Z.‡ & RICKARDS, R. W.
The biogenesis of cycloheximide from the viewpoint of the glutarimide ring symmetry.' *Folia microbiol.*, Praha, 12, 376.

GOLDING, B. T.‡, RICKARDS, R. W., GAUDIANO, G.‡, BRAVO, P.‡ & QUILICO, A.‡

QUERESHI, A. A.‡, RICKARDS, R. W. & KAMAL, A.‡
'The structure and stereochemistry of the Phthalan curvulol and other metabolites of curvularia siddiqui.' *Tetrahedron*, 23, 3801.

‡ Not a member of this University.
In 1966 Council determined that there should be a Research School of Biological Sciences within the Institute of Advanced Studies. Council also appointed an Advisory Committee with the function of making specific recommendations concerning the development of this new School until such time as the most senior appointments had been made. The Advisory Committee has consisted of the Vice-Chancellor, the Deputy Vice-Chancellor, the Head of the John Curtin School of Medical Research, Professor F. J. Fenner, Professor J. D. Smyth, Professor L. C. Birch (of the University of Sydney) and Dr D. F. Waterhouse (of CSIRO), with Professor Catcheside as Chairman. It will continue until early March 1968 when a faculty board will take over its functions.

In the development of the School, biology is seen as an integrated subject which is best conceived in terms of levels of complexity or integration of the biological problems to be considered. The major fields thus separated form convenient units for organisation, outside of which may be small units in special subjects, but there are no real boundaries between any of them. Initially, work in the four important areas, of molecular biology and biochemical genetics, cellular and developmental biology, environmental and population biology and behavioural biology, respectively, is being established.

Professor D. J. Carr who is Professor of Botany at the University of Belfast has been appointed to a foundation chair concerned with cellular and developmental biology and will take up his appointment on 1 January 1968. He is well known for his research in developmental biology, especially upon the structure and development of the chloroplast, the hormonal regulation of growth and development in the higher plant and the physiology of transition from vegetative growth to flowering. Professor Carr also has strong interests in the biology and taxonomy of eucalypts, in which work he has collaborated with his wife, who will hold an honorary fellowship in the School.

Dr R. O. Slatyer was appointed to a foundation chair, to develop work in the area of environmental and population biology. He was Chief Research Scientist and Associate Chief of the Division of Land Research, CSIRO, Canberra, and took up his appointment on 4 December 1967. Professor Slatyer has an international reputation as a plant physiologist and ecologist and is a world leader in the study of environmental biology, to which he has applied physical and mathematical methods.

When Professor Catcheside became Director of the School on 1 October 1967, the major part of the Department of Genetics which he headed in the John Curtin School of Medical Research was transferred to the new School. This association of genetics with the new School is a natural sequel to the way the Department of Genetics was developed and accords with the structure of biological sciences. Much of the work of the Department has been concerned with molecular and biochemical genetics, so that the group will form a suitable nucleus from which to develop molecular biology in this area.

An Electoral Committee, appointed by the Council of the University, is at present
engaged in a search for a foundation professor to develop work in behavioural biology and it is hoped that it will be possible to announce an appointment sometime in 1968.

The group concerned with environmental and population biology will study the effect of environment on the physiological performance and ecological distribution of various animals and plants. It expects to develop broad ecological perspectives and to make contributions to understanding adaptation, competition, productivity, succession and distribution. The solution of these ecological problems requires research skills in mathematics, physics and physiology, the work being centred around environmental physiology.

Emphasis will be given to the biological problems of extreme environments and to mechanisms of tolerance of environmental stress. The Australian environment is characterised by aridity and it is likely that water and heat relationships will be featured. Saline and marine environments also pose challenging problems associated with water and salt balance regulation.

At first, it is likely that three areas of research, respectively environmental studies, population ecology and physiological processes, will be developed. The first will deal with physical phenomena which are relevant to energy, water and gas exchanges in the biosphere. The second area will encompass population dynamics, ecological distribution and succession of species and communities of special interest. The third will comprise physiological studies of key biological processes, such as the mechanism of stomatal movement in higher plants, the regulation of water and salt balance and water and ion transport across biological membranes. The third area will depend almost entirely on laboratory experiments, the other two on field experiments. All will involve theoretical work in different degrees.

Throughout, the research will be oriented towards mathematical simulation of physiological and ecological processes. At present most mathematical theories of biological processes are simplified to a considerable degree and do not possess the degree of realism required for effective prediction. It is hoped that the work of the group will result in more sophisticated theories, more closely reflecting biological phenomena.

The group concerned with developmental and cellular biology will study the phenomena surrounding differentiation, whereby cells and tissues of like heredity take on different functions and assume different shapes. It will be concerned with development at the subcellular level and at the level of interaction between organs. Examples of possible lines of inquiry are the following.

The chloroplast is a complexly organised body in cells, bearing the green compound chlorophyll and the whole system of enzymes whereby by light energy is fixed in the synthesis of carbohydrates. The structure and development of the chloroplast and the structure and properties of the enzymes in it require further study.

Interaction between organs of plants is mediated by hormones. For example, gibberellins and kinins are synthesised in roots and exported to shoots, whose activities they regulate. Other factors are concerned in the initiation of flowering. After exposure to red light, plants which are grown in the dark undergo changes
by which they develop the structures and biochemical capacity of plants grown in the light. This development is triggered by absorption of light by a special protein, phytochrome, and is prevented by compounds which inhibit protein synthesis.

The research in genetics is especially concerned with various aspects of biochemical genetics. Several lines of work are related to the production and function of specific proteins which are determined by various genes. Two particular studies have progressed notably. One is the determination of the detailed structure of the enzyme which catalyses the final step in biosynthesis of the amino acid histidine. It has now been shown that it also catalyses two earlier steps in the biosynthesis, so the relation between structure of gene and the structure and function of the enzyme determined by it is becoming clearer. The other concerns the first step in the biosynthesis of aromatic compounds, including several amino acids and vitamins. This is catalysed by three enzymes, each of which is determined by a distinct gene. Each is subject to control by different aromatic amino acids. This system is an elegant and informative example of regulation.

Work on the regulation of crossing over between genes is continuing fruitfully, two new examples having been found during the year. It is evident that these regulatory genes are quite common and this makes it probable that they have some other, more important, biological function. However, so far none has been found. The possibility that the regulator also acts in controlling the production of enzyme has been virtually excluded in one case, unless unlikely assumptions about the activity are made. The suggestion that they are regulators of differentiation is being considered.

PUBLICATIONS

BENNETT, D. J. & CREASER, E. H.

CHO, Y. K., DOY, C. H. & MERCER, E. H. §§§

CRAWFORD, JANET E.

CREASER, E. H., BENNETT, D. J. & DRYSDALE, R. B.‡

DOY, C. H.

§§§ A member of the Electron Microscope Unit.
‡ Not a member of this University.
THE SCHOOL OF GENERAL STUDIES

THE FACULTY OF ARTS

REPORT OF THE DEAN
Professor A. T. A. Learmonth

The 1967 entry, lacking a normal entry from New South Wales schools in process of conversion to a six-year course under the Wyndham Scheme, was somewhat lower than normal in numbers. Some departments noted a generally poor level and many withdrawals during the year; considerable teaching effort was expended and pass rates of those sitting examinations were about as usual. Very able students were not lacking. Some first-year units, however, had increased enrolments. Later years generally showed increased enrolments, and work towards or actually in the fourth honours year increased modestly but encouragingly in several departments. Rates of failure in examinations varied generally from about 20% to 30% in first-year units, with some subjects as low as 5% and some as high as 40% of those actually sitting. Units in later years generally produced much lower rates. Experimental methods of teaching, tending to spread the pressure throughout the year while applying it fairly relentlessly, appear to produce lower failure rates though some difficulties arise in relation to other units taken by the students. A good deal of concern emerged concerning convergent or clashing demands on students for major essays, project reports, etc., and while some of this is doubtless due to bad planning by the student, efforts are being made to assist with the problem.

Miss Tatiana Cizova was appointed to the Chair of Russian at the University of New South Wales.

Visitors specifically to departments in the Faculty or shared with sister departments in the Institute of Advanced Studies, contributed particularly strongly and happily to the work of the Faculty, including colleagues from the United Kingdom, Eire, U.S.S.R., U.S.A., Canada, India and West Germany, as well as many departments in Australian universities. Overseas study leaves continue to offer stimulus and contacts valuable in leading to such visits as well as in recruiting, and study leaves spent in Australia—often at the Institute of Advanced Studies—to advance appropriate research and authorship. Several heads of departments headed their particular learned association in Australia, and there was a wide spread of participation in seminars, colloquia, workshops and conferences. Several departmental reports record great—it is hoped mutual—stimulus from collaboration with colleagues in the Institute of Advanced Studies.

PUBLICATIONS

Classics

COULTON, J. J.

JOHNSON, R. ST C.
'The social function of the Faculty of Arts.' In Schools, Colleges and Society (ed. R. B. Cornish), Cheshire, F. W.

RAWSON, BERYL M.
'Women in the early Roman Empire.' Teaching History, XVII, 14-18.

English

AUCHTERLONIE, DOROTHY
The Dolphin. Australian National University Press, x + 60.
Eade, J. C.
'Some English Iliads: Chapman to Dryden.' Arion, 336-45.

Milgate, W.

Ramson, W. S. (ed.)
The Emigrant Family or the Story of an Australian Settler (by A. Harris), xi + 418.

Russell, G. H.
'Chaucer: The prioress's tale.' In Studies in Memory of G. N. Garmonsway, Athlone Press.

Chappell, J. M. A.**
'Recognising fossil strand lines from grain size analysis.' J. sedim. Petrol., XXXVII, i, 157-65.

Jennings, J. N.¶ & Bird, E. C. F.*
'Regional geomorphological characteristics of some Australian estuaries.' In Estuaries, 121-8, American Association for the Advancement of Science, Publication 83, Washington.

Laut, P.
'Testing the significance of formal regions in the Macleay Valley, New South Wales.' Aust. geogr. Stud., V, 150-64.

Rose, A. J.*

Spate, O. H. K.¶¶ & Learmonth, A. T. A.

Stipp, J. J.¶, Chappell, J. M. A. & McDougall, I.¶
'K/Ar Age estimate of the Pliocene-Pleistocene Boundary in New Zealand.' Am. J. Sci., CCLXV, 462-74.

Kuhn, H.

Clark, C. M. H.
'Good day to you, Ned Kelly.' Quadrant, August-September.

Andrew, A. L.*

Brown, A.
'The S.H.M. equation: An alternative treatment.' Australian Mathematics Teacher, 23, 1, 14-16.

Burns, J. C.

Burns, J. C. & Parkes, T.‡
'Peristaltic motion.' J. Fluid Mech., 29, 4, 731-43.

** Based on work done prior to joining this University.
¶¶ A member of the Department of Geography, Institute of Advanced Studies.
* Based on work done while a member of the Department.
¶ A member of the Department of Geophysics and Geochemistry.
‡ Not a member of this University.
Byrne, G. F. ‡, Drummond, J. E. & Rose, C. W. ‡

Drummond, J. E.
'An exploded disc.' Mathl Gaz. 51, 129-34.

Briden, J. C. † & Ward, M. A.

Gupta, N. D. ** & Newman, M. F.

Kovács, L. G. § & Newman, M. F.

Neumann, Hanna

Neumann, P. M. ‡ & Newman, M. F.

Newman, M. F.

Stewart, A. G. R.*

Ward M. A.

Herbst, P.
'A critique of the materialist identity theory.' In The Identity Theory of Mind (ed. C. F. Presley), Univ. of Queensland Press.
'Postscript.' In The Identity Theory of Mind (ed. C. F. Presley), Univ. of Queensland Press.
'Art as Drama.' Prometheus, 1-4.

Schlesinger, G.
'What does the denial of absolute space mean?' Australasian Journal of Philosophy, XLV, i, 44-60.
'The probability of the simple hypothesis.' Am. phil. q., IV, ii, 152-8.

Beddie, B. D.

‡ Not a member of this University.
§ Based on work done while a member of the Department of Geophysics and Geochemistry.
** Based on work done while a member of the Department of Mathematics, Institute of Advanced Studies.
§ A member of the Department of Mathematics, Institute of Advanced Studies.
* Based on work done while a member of the Department.
Cooksey, R. J.  

Crisp, L. F.  
'Policy co-ordination.' In *Australian Politics: A Reader* (ed. H. Mayer), 2nd ed.  
'Central co-ordination of Commonwealth policy-making: Roles and dilemmas of the Prime Minister's Department.' *Public Administration (Sydney)*, **XXVI**, i, 28-57.

Hunter, Thelma A. C.  
'Aspects of National Health Insurance in Australia.' *Indian Journal of Public Administration*, **XIII**.  
The status of women in Australia.' *Indian J. Social Wk*, July.  

Lyall, E. A.  
'Dr Caiden's views on the Commonwealth Bureaucracy.' *Public Administration (Sydney)*, **XXVI**, iv.

McFarlane, B. J.  
'Simple commodity production and the planning of economic surplus.' *Studies and Research on Under-developed Countries*, **XVIII**, ii, 5-12.  
'Interest groups and economic policy.' *Dissent*, **XX**, 8-12.

West, Katharine O.  

**Theses**  
Thesis titles of work successfully submitted by research students in the Faculty of Arts:

'The Communist Party of Australia 1920-35. Policy and organisation.' A. B. Davidson (*Department of History*).  
'The Chinese in New South Wales and Victoria, 1901-1921, with special reference to Sydney and Melbourne'. Yong Ching Fatt (*Department of History*).

'On approximation over ideal bases in quadratic number fields'. N. H. Bong (*Department of Pure Mathematics*).  
'Power structure under Marcus Aurelius'. P. M. Brennan (*Department of Classics*).  
'The statutory rights of public servants: The experience of officers of the Commonwealth Public Service of Australia'. Naomi J. Caiden (*Department of Political Science*).  
'Public values in post-Stalin fiction'. Katerina Clark (*Department of Russian*).  
'Popularis: A study in usage'. Margaret O. Hallo (*Department of Classics*).  
'John Dunmore Lang and immigration'. Rosemary L. Lawson (*Department of History*).  
'Permutational products of groups and embedding theory of group amalgams'. A. Majeed (*Department of Pure Mathematics*).  
'The fiction of Edith Wharton'. Brenda M. Niall (*Department of English*).  
'A decade of assessment; being a study of the intellectual life of Melbourne between 1876 and 1886'. Jillian I. Roe (*Department of History*).  
'Dr Bland in New South Wales'. P. D. Thompson (*Department of History*).
Although it had been expected that undergraduate enrolments would be significantly lower in 1967, in which there was no direct intake from final-year secondary school classes in New South Wales, aggregate enrolments in units offered by the Faculty were virtually stable at 959 (compared with 972 in 1966). First-year enrolments were 647 (compared with 681 in 1966). Twenty-three graduate students were enrolled for the degree of Master of Economics and ten students for the degree of Doctor of Philosophy worked under the supervision of members of the Faculty.

Persistence and pass rates showed some improvement in virtually all units offered by the Faculty, but the proportions of students passing first-year units remained disturbingly low. As a proportion of original enrolments in all first-year classes, 43.4% of students passed in 1967 (compared with 37.3% in 1966); expressed as a percentage of students actually sitting for the examinations the pass rate was 60.2% in 1967 (compared with 55.8% in 1966). With the exception of Statistics II, which requires mathematical aptitudes that are not necessarily revealed in Statistics I, failure rates in second-year and third-year units were low.

With a view to finding ways of improving the performance of first-year students, all departments of the Faculty have co-operated in an investigation designed to throw light on the causes of failure. The investigation has suggested that the high failure rates in the Faculty of Economics are due to: (a) inadequate admission standards obtaining generally throughout the University; (b) a higher proportion of students with weak matriculation records enrolling in the Faculty of Economics than in other faculties; and (c) a lack of motivation on the part of some students (especially younger part-time students). All departments have kept teaching and examining arrangements under continuous review, and there is no evidence that the high failure rates are due to ineffective teaching or to the adoption of unreasonably high examination standards.

A terminal one-year course in economics (Economics A) was offered for the first time in 1967. This unit was established for the benefit of students not enrolled in the Faculty of Economics, who do not wish to undertake the study of mathematics which is required for purposes of Economics I. The Department of Economics also provided a new third-year course in the Theory of Development and Fluctuations.
Education after 1970. The Accounting IV course will be offered for the first time in 1968. A computer programming course was introduced as a compulsory part of the Accounting II curriculum in 1967.

A new unit in Operational Research will be offered by the Department of Statistics for the first time in 1968.

Proposals for a combined four-year course leading to the degree of Bachelor of Economics and Bachelor of Laws are now being considered by the Faculties of Economics and Law.

Consideration is also being given to the introduction of one or two units in Computing Science for purposes of the degree of Bachelor of Economics, the teaching staff to be provided by the Computer Centre.

At the postgraduate level, proposals have been made for the establishment of two new degrees of master in Administrative Studies and Economic Policy respectively, in which the main emphasis will be on course work rather than thesis. If academic approval is obtained and the necessary financial resources are forthcoming it is possible that the Economic Policy course will be offered in 1969 and the Administrative Studies course in 1970.

At a brief ceremony on 11 April, the new building for the Faculty of Economics was named in honour of the University’s first Vice-Chancellor, Sir Douglas Copland, K.B.E., C.M.G. Although the standard of accommodation in the Copland Building is good the number of staff studies is already quite inadequate; until the end of 1968, when the Faculty of Law is expected to move into its new building, it will be necessary to accommodate new members of staff in store-rooms and other temporary accommodation in which they will be geographically separated from their colleagues. The position of the growing number of research students working in the Faculty is also far from satisfactory; at present they have to work in the remote Childers Street offices or make use of other makeshift accommodation.

Sketch plans for the Copland Building Lecture Theatre are now being considered and it is hoped that the theatre will be completed early in 1969.

Teaching and research facilities available to the Faculty of Economics are generally good. In order to avoid unnecessary duplication, equipment is being purchased and operated on a Faculty instead of a departmental basis as far as possible. Purchases during 1967 included such items as duplicating equipment, a card punch and a programmed calculating machine; the latter seems likely to prove one of the most useful research tools available to members of the staff.

All departments of the Faculty are having difficulty in recruiting and retaining staff. The Faculty faces intense competition for staff, not only from the growing number of economics and commerce faculties in other Australian and overseas universities, but also from government departments, international agencies and private industry. Although the Faculty has adopted a policy of not making appointments where to do so would result in a lowering of academic standards, it believes that University appointments and promotions criteria need to be varied where necessary to recruit or retain younger staff members of outstanding ability.
During the year, the Faculty received invaluable teaching assistance from visiting American, English and Japanese professors and from members of staff in the Institute of Advanced Studies.

Members of the four departments of the Faculty are engaged in a wide range of research activities, the main emphasis being on public finance theory and policy, government and national accounting, financial reporting, Australian economic development, population growth, the theory of economic fluctuations, wage theory and policy, income theory, applied economics, Japanese-Australian trade, the theory of stochastic processes and its applications, Markov processes, sampling theory and operational research. Two books written by members of the Faculty were published during the year and several others were in the hands of the printer at the end of the year. Numerous research papers were published in Australian and overseas journals.

The various departments conducted regular research seminars during the year.

**PUBLICATIONS**

**Accounting and Public Finance**

**AULD, D. A. L.**


**HEAD, J. G.**

'The theory of debt incidence.' *Rivista di diritto finanziario e scienza delle finanze, XXVI, ii, 175-214.*


**MA, R. A.**

'Some reflections on current accounting teaching.' In *Papers Presented at the Australasian Association of University Teachers of Accounting Conference, 93-110,* Australasian Association of University Teachers of Accounting.

**MATTHEWS, R. L.**

*Public Investment in Australia,* Cheshire, F. W., xxv + 461.


'A computer programming approach to the design of accounting systems.' *Abacus, III, ii, 113-52.*

**STANDISH, P. E. M.**

'Limits on the budgeting process.' *Australian Accountant, XXXVII, ii, 83-94.*

**Economic History**

**CAIN, N. G.**

'The economist and Australia's historical balance of payments problems.' *Economic Record, XLIII, ciii, 452-4.*

**GLYNN, S.**

'Government policy and agricultural development: Western Australia, 1900-1930.' *Australian Economic History Review, VII, ii, 115-41.*

**TUCKER, G. S. L.**

'Population in history.' Essays in Bibliography and Criticism, LIII. *Economic History Review, 2nd ser. XX, i, 131-40.*

**Economics**

**CAMERON, B. D.**

*Production, Employment and Prices in Australia, 1958-59 to 1963-64.* Cheshire, F. W.

'The demand dissipation effect.' *Economic Record, VI.*

**PITCHFORD, J. D.**

'Wage policy and distribution theory.' *Economica, XXXIV, cxxxiv, 167-80.*

**SLOANE, K.**

'The National Wage Case, 1967.' *Journal of Industrial Relations, IX, iii.*
Drysdale, P. D.

'Japan, Australia and Pacific Economic Integration.' Aust. Neighbours, 4th Series, I-li, 7-10

Hannan, E. J.


'Canonical correlation and multiple equation systems in economics.' Econometrica, 35, 123-38.


Heathcote, C. R.

'Complete exponential convergence and some related topics.' J. appl. Probab., 4, 217-56.

Heathcote, C. R., Seneta, E. & Vere-Jones, D.$


John, S.

'Estimators for the comparison of sampling design.' Australian Journal of Statistics, 9, 55-6.

McNeil, D. R.


'Efficiency loss due to grouping in distribution-free tests.' J. Am. statist. Ass., 62, 954-65.

Seneta, E.


Seneta, E. & Vere-Jones, D.$


Theses

Thesis titles of work successfully submitted by research students in the Faculty of Economics:

'The Joint Committee of Public Accounts (1951-1965) as an instrument of parliamentary control of Commonwealth Government expenditure and of the activities of Commonwealth departments and authorities'. K. J. Cosgrove (Department of Political Science).

'A history of Lincoln Mills (Australia) Ltd 1922-1962'. Kyoko Sheridan (Department of Economic History).

$A member of the Department of Statistics, Institute of Advanced Studies.
Council reappointed to membership of the Faculty the Honourable Mr Justice P. E. Joske of the Commonwealth Industrial Court and of the Supreme Court of the Australian Capital Territory, Mr A. F. Mason, Q.C., Solicitor-General, Mr K. F. O'Leary of the legal firm of Martin, Crossin, O'Leary and Barker, and Professor G. Sawer of the Department of Law, Institute of Advanced Studies.

The full-time academic staff comprised three professors, two readers, four senior lecturers, three lecturers, one senior tutor, four part-time lecturers, two part-time tutors.

Guest Lecturers included: Mr A. F. Mason, Q.C., Solicitor General; Professor R. Norvell, Dean of the Law School, Temple University, Philadelphia; Professor E. A. Hoebel, University of Minnesota; Mr D. G. T. Williams, Fellow of Emmanuel College, Cambridge; Mr L. V. Harvey, Chief Marriage Guidance Officer, Attorney-General's Department.

Professor J. E. Fleming, Professor of Law, University of California (Berkely), and a former Dean of the Faculty, came to Canberra as Visiting Professor for eight weeks during Second Term. Professor Fleming, an international authority on the Law of Torts, gave lectures in Torts, Commercial Law and Conflict of Laws.

The Faculty was also most grateful to Lord Denning, the Master of the Rolls, for giving a lecture to law students during his visit to Canberra last August. Lord and Lady Denning were afterwards the guests of the Faculty at tea.

Professor Richardson was on study leave at the Institute of Air and Space Law, McGill University, until October.

Mr L. R. Zines was appointed to the third Chair of Law in May and Mr D. W. Smith was appointed reader in August.

Two appointments were made to vacant positions of senior lecturer: Mr J. Dixon, Lecturer, School of Accountancy, Faculty of Commerce, University of New South Wales and Mr J. L. R. Davis, Lecturer in Law, University of Canterbury, New Zealand. Both will take up their duties at the beginning of 1968.

Dr Alice E. S. Tay and Mr G. J. Davies were appointed as lecturers during the year.

Vacancies for two readers, a lecturer and a senior tutor have to be filled.

Mr A. H. Simpson resigned from the position of reader in May to take up an appointment as a Puisne Judge in Kenya.

Despite the decrease in 1966 in the number of New South Wales students gaining university entrance qualifications following the change from the five-year Leaving Certificate to the six-year Higher School Certificate matriculation course, total enrolments for the law course have remained stationary and the size of the 1967 first-year class was only slightly smaller than in 1966.

Approximately 100 students enrolled for the law course for the first time in 1967. Total enrolments were 327, 191 being full-time and 136 part-time students. Two hundred and forty-five students were enrolled for the degree of Bachelor
of Laws and eighty-two were studying for the combined Bachelor of Arts/Bachelor of Laws degree. The failure rate amongst first-year students declined appreciably from the high 1966 level.

Other than in exceptional circumstances, the Faculty, during 1967 enrolment period, followed the policy of rejecting applications for admission to the law course from any student excluded by or refused permission to re-enrol in any other Australian law school.

Five students attempted the degree with honours examination in February. This was the last Final Honours examination held under the old rules for the award of the degree with honours and all candidates obtained Second Class Honours.

At the Conferring of Degrees ceremony held in April, sixteen students graduated; eleven received the degree of Bachelor of Laws and five the Degree of Bachelor of Laws with Honours.

Three new prizes were donated to the Faculty during the year. The first was a prize from the Australian Capital Territory Supreme Court Judges for award to the student performing the best work in the Final Honours examination. The Australian Capital Territory Law Society also donated a prize for the student performing the best work in the first-year subject of Contracts. A third prize was received from the Australian Capital Territory Bar Association for award to the student obtaining the highest results in Evidence. The Faculty very much appreciates the interest taken in its students by the Supreme Court Judges, the Law Society and the Bar Association.

The Ansett Air and Space Law Scholarship was not awarded in 1967 as the subject of Air and Space Law was not offered.

Two students qualified during 1967 for the award of the degree of Master of Laws. Five candidates were proceeding to the degree by thesis and a sixth candidate became eligible for admission to the course at the end of the year after passing a qualifying examination. One other candidate was accepted during the year for a qualifying course.

The compulsory Moot program continued to be extremely effective. It was directed by Mr Simpson until his departure for Kenya in May. Mr Simpson was then succeeded by Mr Davies.

The Faculty would like to record its appreciation to members of the Department of Law, Institute of Advanced Studies, and local legal practitioners who have given considerable time to the setting of suitable problems and to adjudication.

A team from the Law School participated in the Australia and New Zealand Intervarsity Law Schools Moots Competition held in Wellington, New Zealand, during May. The team from this University comprising Messrs A. Cork, B. G. Donald, W. P. Kearns and P. A. Paterson, won the competition by defeating the team from the University of Sydney in the final.

The third and fourth editions of the Federal Law Review appeared in 1967. The appearance of the fourth issue was commemorated by a dinner. Guest speakers at the dinner included the Honourable Mr Justice R. W. Fox, Judge of the Supreme Court of the Australian Capital Territory, and Mr P. R. Heydon, C.M.G., Secretary, Department of Immigration.
The holdings of the branch of the University Library housed with the Faculty of Law increased during the year by approximately 5,000 volumes. The main acquisition was the National Reporter Series of the United States comprising about 3,300 volumes.

There is not enough room in the present accommodation in the Copland Building to accommodate all the holdings and some volumes, including the National Reporter Series, have been housed temporarily in the R. G. Menzies Building of the University Library until space becomes available in the library of the Law School which is expected to be completed by the end of 1968.

Discussions have been held with the Department of Law in the Institute of Advanced Studies with a view to consolidating most of the University's law holdings in the library of the new Law Building at present under construction. This will lead to some savings in the purchase of duplicate sets of Law reports. When the holdings are amalgamated, it is likely that they will exceed the capacity of the first stage of the library in the new building. The construction of a second stage is therefore a matter of urgency in the 1970-72 triennium.

Another noteworthy development has been the increase in the number of requests for exchanges of the *Federal Law Review*.

Professor Whitmore continued his work in association with Professor D. G. Benjafield of the University of Sydney on a research project concerning administrative law and practice.

During the first half of the year, whilst he was on study leave, Professor Zines carried out research at the Institute of Advanced Legal Studies and the British Institute of International and Comparative Law in London on the Court of the European Communities.

The Attorney-General of the Commonwealth announced towards the end of 1967, that members of the Faculty's academic staff together with the practicing profession, are to be given an active role in law reform in the Australian Capital Territory. This will involve the Faculty in considerable additional and detailed research work.

Professor Whitmore presented a paper entitled 'Civil Liberties in Australia, Censorship and Public Meetings' to the Australasian Universities Law Schools Association Conference in August. He gave two seminars at the Administrative Staff Course, University of New South Wales, in May and November. The first was on the topic 'Aspects of Administrative Law' and the second, 'Recent Developments in Administrative Law'. Professor Whitmore conducted a seminar for the Public Service Board in July on 'Administration and National Justice'. In October Professor Whitmore was elected to the Council of the Law Society of the Australian Capital Territory. He is the first member of the academic staff of the Law School to serve on the Council.

Professor Richardson in April attended a seminar on 'American Influence in Australia' convened by the Commonwealth Studies Center, Duke University, and presented a paper on 'United States Influences on Australian Commercial Aviation'. In June, he attended a conference of the Canadian Comparative Law Association and was a commentator on the topic 'The Problems of Constitutional Amendment in a Bi-cultural Federal Society'. In October and November Professor Richardson visited the Law Schools of New York, North Western, Duke,
Virginia, Southern Methodist, Michigan and Yale Universities under the auspices of the Carnegie Foundation and lectured on the Warsaw Convention at the Southern Methodist University of Dallas, Texas.

Professor Richardson in November lectured to members of the New York City Bar Association on the Australian Trade Practices Act. Later in the month he addressed a meeting of the British Institute of International and Comparative Law in London on a similar topic. In November he also attended an international conference of experts in Air Law convened by the Institute of Air and Space Law, McGill University, and presented a paper dealing with legal problems raised by joint registration of aircraft and referring particularly to the question of amending the Chicago Convention.

Dr Alice Tay read a paper 'Tort Problems in a Socialist Legal System: Change and Development in the Soviet Law of Torts' at the Australian Torts Teachers Seminar held in Canberra in August.

The first postgraduate seminars in law held in Canberra were organised during the year by the Faculty in co-operation with the Law Society of the Australian Capital Territory. The seminars dealt with Restrictive Trade Practices Law, Torts and Company Law. Papers on Restrictive Trade Practices were delivered by Mr D. J. Rose of the Faculty and Dr A. Hunter of the Department of Economics, Research School of Social Sciences. Torts seminars were led by Professor J. G. Fleming. At the Company Law seminar, papers were given by Professor R. Parsons, Mr G. Kenneally of the University of Sydney and Mr A. F. Mason, Q.C., Solicitor-General. It is planned to hold the seminars regularly in future.

PUBLICATIONS

Davies, G. J.

Richardson, J. E.
'Aviation Law in Australia.' In 1965 Year Book of Air and Space Law, McGill Univ.

Richardson, J. E. & Rose, D. J.

Rose, D. J.
Lewis' Australian Bankruptcy Law. Law Bk, 5th ed.

Tay, Alice E. S.

Whitmore, H.
'O! That way madness lies: Judicial review for error of law.' 2 Federal Law Review, 2, 159-82.

Zines, L. R.
Despite a fall in the number of first-year enrolments due to the ‘Wyndham’ effect, the Faculty had a year of satisfactory progress. New appointments during the year were Dr J. D. Frodsham, University of Adelaide, to the Department of Chinese as a senior lecturer, and Dr Sutjipto Wirjosuparto, formerly Professor of Indonesian Archaeology and Cultural History, University of Indonesia, to the Department of Asian Civilization as a senior lecturer.

Visitors to the Faculty during the year included Prince Sadruddin Aga Khan, and Professor Josepha M. Saniel of the University of the Philippines.

Throughout the year, members of the Faculty participated in seminars and Adult Education courses arranged at the University, and gave lectures at the Universities of Sydney, Melbourne and Queensland. The Faculty was, moreover, well represented at the Twenty-seventh International Congress of Orientalists held at the University of Michigan. Five members were present, four of them chairing sessions and/or presenting papers.

Associate Professor O. B. van der Sprenkel’s bibliographical project, now well under way, received support for a second year from the Robertson Committee. This committee likewise made a second grant to Dr H. H. E. Loofs to enable him to take part in the next season of the British Museum Archaeological expedition to Thailand.

Good progress was made on the English-Malay Dictionary for Cambridge University Press. It is envisaged that at least a further two years work is necessary before the manuscript is ready for the printer.

A major project was inaugurated for the systematic microfilming of magazines and periodicals relating to modern literature and general culture in Indonesia and Malaysia in cases where sets of back numbers of such periodicals are no longer available. The project was undertaken in association with Monash University, and is at present proceeding under the aegis of the Librarian of this University.

Special mention should be made of the exhibition of South and South-East Asian art which was held in the R. G. Menzies Building of the University Library in July, and organised by the Kalidasa Society in association with the Department of Asian Civilization. It aroused wide public interest and was visited by H.E. The Governor-General and Lady Casey.

The total number of enrolments for units offered in the Faculty was 380 (of which 280 were full-time), including thirty-nine cancellations and two non-examination, as compared with 427 in 1966.

Examination enrolments totalled 343 (Asian Civilization, 167; Chinese, 31; Indonesian Languages and Literatures, 104; Japanese, 30; South Asian and Buddhist Studies, 11), as compared with 388 in 1966.

Fifteen students held Oriental Studies Scholarships during the year. It is regretted that two scholars lost their scholarships due to unsatisfactory progress.
Deserving special mention, however, are Mr K. G. Boston, Miss V. G. Lee and Mr I. M. Proudfoot, scholarship students who gained first class honours in Japanese studies and Indonesian Languages and Literatures studies, respectively.

On the results of final honours examinations postgraduate scholarships were awarded to four students.

On 31 December ten full-time students and two staff candidates were enrolled for the degree of Doctor of Philosophy, and two full-time students were enrolled for the degree of Master of Arts (Oriental Studies).

Dr Soebardi, a staff candidate, was admitted to the degree of Doctor of Philosophy in April.

PUBLICATIONS

BASHAM, A. L.

GARDINER, K. H. J.

LOOFS, H. H. E.

LOOFS, H. H. E. & Watson, W.†

RIZVI, S. A. A.

DE CRESPIGNY, R. R. C.
Official Titles of the Former Han Dynasty: An Index. (From the text translated and transcribed by H. H. Dubs), Centre of Oriental Studies Oriental Monograph, No. 2, Australian National University Press, xi + 67.
'The military geography of the Yangtze and the early history of the Three Kingdoms State of Wu.' J. Orient. Soc. Aust., IV, i.
'The recruitment system of the imperial bureaucracy of the late Han.' Chung Chi Journal, VI.

FRODSHAM, J. D.

KIRILOFF, C.
'Vignettes on portraits of Chinese Communists.' East Wind, I, i, 39-44.

LIU, T. Y.
Chinese Scholarship in Australia. The Australian National University, 20.
'Taoism and Neo-Confucianists in Ming Time.' New Asia Journal, VIII, i.
'Wu Ch'eng-en, His Life and Career.' T'oung Pao, LIII.
'Ku Hung-ming and his interpretation of Chinese Civilization.' In Proceedings of the Symposium on Historians. Archaeological and Linguistic Studies on Southern China, S.E. Asia and the Hong Kong Region, Hong Kong Univ. Press.

SOEWITO SANTOSO
'Wayang: Shadow, puppet or image?' Hemisphere, II, ii.

SUPOMO, S.
'Borobudur and the quest for ultimate reality.' Hemisphere, II, vii.

† Not a member of this University.
MUKAI, H.
'The day of the wedding.' (A translation of a short story by Kazuo Ozaki.) *Hemisphere*, XI, i, 7-12.
'Problems in teaching modern Japanese literature.' *The Oriental Economist*, XXXV, dclxxix, 316-17.
'Wabun eiyaku no mondaiten.' (Problems in translation from Japanese into English.) *Eigo Kyóiku*, XVI, iii, 2-4.
'Gaikokujin ni Nihongo o oshiete.' (On teaching Japanese to foreigners.) *Eigo Kyóiku*, XVI, vii, 5-7.

DE JONG, J. W.
'Sum-pa mkhan-po (1704-1788) and his works.' *Harvard Journal of Asiatic Studies*, XXVII, 208-17.

YUYAMA, A.

**TH E S E S**

Thesis titles of work successfully submitted by research students in the Faculty of Oriental Studies:

The year saw satisfactory progress in the development of the Faculty. The retardation in student enrolments, as a result of the extra year of secondary schooling required by the New South Wales Department of Education, was not as marked overall as expected, but provided some breathing space for those departments embarrassed by restricted teaching accommodation.

A Department of Biochemistry was established in September with the arrival of Professor L. M. Birt. Although accommodation is restricted and of a temporary nature, the Department expects to undertake full teaching and limited research activities in 1968.

Much of the ground work for the introduction of a new ten-unit course for the degree of Bachelor of Science has now been undertaken and discussions have taken place with other faculties with a view to its institution in 1969. Plans have also been put in train to organise the ten-unit course on a semester basis.

As indicated by the lists of departmental publications, research proceeded at a high level, and was again greatly assisted by awards from the Australian Research Grants Committee and grants made by agencies outside the University. Recruitment of academic staff proceeded satisfactorily and second chairs in the Departments of Chemistry and Psychology were filled by the appointment of Dr I. G. Ross and Dr K. A. Provins, respectively.

Professor D. M. F. Dunbar relinquished the Deanship of the Faculty on 29 September, after four years' service in that office. Dr E. G. Brittain completed three years' service as subdean on the same date, and his place was taken by Dr R. A. Eggleton of the Department of Geology.

**Publications**

**Byrne, O. R.**


'Polymorphism in the Australian Acrididae—II. Changes in colour pattern gene frequencies in the Plague Locust *Chortoicetes terminifera.*' *Heredity, 22*, 4, 569-89.

**Evans, L. T.‡, Knox, R. B. & Rijven, A. H. G. C.‡**

'The nature and localization of early events in the shoot apex of *Lolium temulentum* during floral induction.' In *Cellular and Molecular Aspects of Floral Induction* (ed. G. Bernier), Liege.

**Knox, R. B.**


**Paton, D. M.**


**Pryor, L. D.**

'Acacia peuce: A tree for arid areas.' *Unasylva*, 21, 84, 28-30.


**Sherry, S. P.‡ & Pryor, L. D.**

'Growth and differential frost-resistance of topoclinal forms of *Eucalyptus fastigata* D&M planted in South Africa.' *Aust. For.*, 31, 1.

‡ Not a member of this University.
BICK, I. R. C.*, BOWIE, I. H.† & DOUGLAS, G. K.

BRADBURY, J. H. & KING, N. L. R.

BRADBURY, J. H. & WILAIRAT, P.*

BRENNER, J. B.* & WARRENER, R. N.
'Photoysis of cyclohexadiene imides. N-Substituent effects and bicyclo (2.2.0.) hexane formation.' *Chem. Commun.*, 18, 926-7.

BROOMHEAD, J. A.

BROOMHEAD, J. A., DWYER, F. P.††, GOODWIN, H. A.*, KANE-MAGUIRE, L. & REID, I.‡
'Potassium μ-oxo-bis(pentachlororuthenate) (IV)-1-hydrate.' *Inorg. Synth.*, XI.

BROOMHEAD, J. A. & GRUMLEY, W. D.
'Dichlorobis(1,10-phenanthroline)iridium(III) complexes.' *J. inorg. nucl. Chem.*, 29, 2126.

BROOMHEAD, J. A. & KANE-MAGUIRE, L.

BROWN, R. F. C., CLARK, V. M.* & TODD, A. R.‡

BROWN, R. F. C., COOKSON, R. C.† & HYDEC, J.‡

BROWN, R. F. C., CROW, W. D. L., SUBRAHMANYAN, LALITHA* & BARNES, C. S.‡

BROWN, R. F. C., GARDNER, D. V.‡, McCOMIE, J. F. W.‡ & SOLLY, R. K.*

BROWN, R. F. C., SUBRAHMANYAN, LALITHA* & WHITTLE, C. P.*

CROW, W. D. L. & GOSNEY, I.

CROW, W. D. L. & WENTRUP, C.

DALY, N. J., SCOTT, D. L. & SELINGER, B. K.
*A Chemistry Laboratory Manual for First Year University.* Australian National University Press, iv + 276.

GILL, NAIDA S. & TAYLOR, F. B.‡

* Based on work done while a member of the Department.
†† Former member of the Biological and Inorganic Chemistry Unit.
‡ Not a member of this University.
Hambly, A. N.


Henry, M. P.* & Hambly, A. N.


Sterns, Meta

‘The crystal structure of Pb$_3$UO$_6$.’ Acta crystallogr., 23, 264-72.

Vagg, R. S.‡, Warrener, R. N. & Watton, E. C.‡


Bachelard, E. P.


Bachelard, E. P. & Boughton, Valerie H.*


Boughton, W. C.*

‘Planning the construction of forest roads by linear programming.’ Aust. For., 31, 2, 11-20.

Carron, L. T.


Florence, R. G.**

‘Factors that may have a bearing upon the decline of productivity under forest monoculture.’ Aust. For., 31, 1, 50-71.

Heather, W. A.


‘Leaf characteristics of Eucalyptus bicostata Maiden et al. seedlings affecting the deposition and germination of spores of Phaeoseptoria eucalypti (Hansf.) Walker.’ Aust. J. Biol. Sci., 20, 1155-60.

Ovington, J. D.


Ovington, J. D. & Carron, L. T.

‘Forestry in Australia.’ Hemisphere, 11, 32-6.

Ovington, J. D. & Lawrence, D. B.‡

‘Comparative chlorophyll and energy studies of prairie, savanna, oakwood and maize field ecosystems.’ Ecology, 48, 515-24.

Rudman, P.**

A Simple Method for the Estimations of Copper-Chrome-Arsenic Wood Preservatives in Poles. CSIRO Division of Forest Products Technological Paper, No. 45.

Rudman, P.**, Da Costa, E. W. B.‡ & Gay, F. J.‡


* Based on work done while a member of the Department.
** Based on work done prior to joining this University.
† Not a member of this University.
RUDMAN, P. ** & GAY, F. J. ‡
'The causes of natural durability in timber. Pt. XXI. The anti-termitic activity of some fatty acids, esters, and alcohols.' Holzforschung, 21, 24-6.

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'The causes of natural durability in timber. Pt. XX. The causes of variation in the termite resistance of Jarrah (Eucalyptus marginata Sm.).' Holzforschung, 21, 21-3.

STEVENS, P. R. **
'Some aspects of the Manawatu and Franz Josef chronosequences.' Soil News, 1, 3-10.

ABBOTT, M. J.

BANNO, S.

BELFORD, D. J. *

BOTH, R. A., RAFTER, T. A. ‡ & SOLOMON, M. ‡
'Sulphur isotopes and zoning of the Zeehan mineral field.' In The Geology of Western Tasmania—A Symposium, 2, University of Tasmania.

BROWN, D. A. (trans.)

BROWN, D. A., CAMPBELL, K. S. W. & CROOK, K. A. W.

CAMPBELL, K. S. W.

CAMPBELL, K. S. W. & TALENT, J. A. ‡

CONYBEARE, C. E. B.

CROOK, K. A. W.
'Cosmic ice residuum associated with an Astrobleme?' Nature, Lond., 213, 5080, 999-1000.

DAY, R. W.
'Lithancylus australis sp. nov., a new ammonite from the Aptian of Queensland.' J. geol. Soc. Aust., 14, 19-22.
'A mixed roma-Tambo fauna from the Tambo Area.' Qd Govt Min. J., 68, 10-12.

EGGLETON, R. A. & BAILEY, S. W. ‡
'Structural aspects of dioctahedral chlorite.' Am. Miner., 52, 673-98.

EXON, N. F. ‡, MILLIGAN, E. N. ‡ & DAY, R. W.

* Based on work done while a member of the Department.
** Based on work done prior to joining this University.
‡ Not a member of this University.
GRUSHINSKI, N. P.† & FROLOV, A. I.‡

HEIER, K. S.‡, CHAPPELL, B. W., ARRIENS, P. A.‡ & MORGAN, J. W.‡

JAEGE, H.†
'Preliminary stratigraphical results from graptolite studies in the Upper Silurian and Lower Devonian of Southeastern Australia.' J. geol. Soc. Aust., 14, 281-6.

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'A note on costellae in orthid and strophomenid brachiopods.' Geol. Mag., 104, 435-42.

NORRIS, K.‡ & CHAPPELL, B. W.

OLENIN, V. B.†
'The principles of classification of oil and gas basins.' Australas. Oil Gas J., 13, 5.

POWELL, N. A.*

'O Note on the relationship between Kenozoocia and Avicularia in some Cribri- linidae (Polyzoa).' Trans. R. Soc. N.Z. Zoology, 7, 155-8, 1966.

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RICKARD, M. J.

STAUFFER, M. R.*
'The problem of conical folding around the Barrack Creek Adamellite, Quen- beyan, New South Wales.' J. geol. Soc. Aust., 14, 49-56.


STEINER, J.*

TAYLOR, S. R.‡ & WHITE, A. J. R.

VINE, R. R.‡, DAY, R. W., MILLIGAN, E. N.‡, CASEY, D. J.‡, GALLOWAY, M. C.‡ & EXON, N. F.†
'Revision of the nomenclature of the Rolling Downs Group in the Eromanga and Surat Basins.' Qld Govt Min. J., 68, 144-51.

WHITE, A. J. R., COMPSTON, W.‡ & KLEEMAN, A. W.‡
'The Palmer Granite—a study of a granite within a regional metamorphic environment.' J. Petrology, 8, 29-50.

WHITTINGTON, H. B.‡ & CAMPBELL, K. S. W.

WILLIAMS, K. L.

'Geochemical studies of the Zeehan ores.' In The Geology of Western Tasmania —A Symposium, 2, University of Tasmania.

WOLF, K. H.*, EASTON, A. J.‡ & WARNE, S.‡
Physics

HARDING, B. C.
'Diffusion of barium in magnesium oxide.' Phil. Mag., 16, 1039.

MACDONALD, R. J.
'The study of surface properties of thin germanium films using a Piezoelectric Mass Detector.' Proc. IEEE (Australia), 84, 102.

MORTLOCK, A. J.

MORTLOCK, A. J. & EWENS, P. M.*

WILLIAMS, J. F.*

Psychology

CHEN, C. S.
'Training schedules in a two-turn task in a temporal circular maze.' Psychonomic Sci., 9, 5.

CLARKE, A. M.
'Motoneuron reflex response during intermittent visual stimulation as an indication of fusimotor activity.' Physiology and Behaviour, 2, 153-9.

CLARKE, A. M. & MCKENZIE, I. C.‡

COOK, M. L.
'The fronto-parallel plan horopter.' In Perception: A Laboratory Manual (ed. G. Singer, A. Bennett and R. H. Day), Univ. of N.S.W.

Theoretical Physics

ANDREWS, M.

BUCHDAHL, H. A.

LICHTENBERG, D. B.‡ & TASSIE, L. J.

* Based on work done while a member of the Department.
‡ Not a member of this University.
BARWICK, R. E. & FULLAGER, P. J.‡

BRYANT, C., NICHOLAS, W. L. & JANTUNEN, RITVA*
'Some aspects of the respiratory metabolism of Caenorhabditis briggsae.' Nematologica, 13, 197-209.

BUSTARD, H. R.
'The comparative behavior of chameleons: Fight behavior in Chameleo gracilis Hallowell.' Herpetologica, 23, 1, 44-50.
'Mechanism of nocturnal emergence from the nest in green turtle hatchlings.' Nature, Lond., 214, 317.
'Defensive display behavior of the Australian Gecko Nephurus asper.' Herpetologica, 23, 2, 126-9.
'A mechanism for greater predator survival during cold torpor in Gekkonid lizards.' Brit. J. Herpet., 3.
'The status of the Gekkonid lizard name Oedura ocellata Boulenger.' Herpetologica, 23, 4.
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'Gekkonid lizards adapt fat storage to desert environments.' Science, N.Y., 158.

CHEAH, K. S.*
'Spectrophotometric studies on the succinase oxidase system of Taenia hydatigena.' Comp. Biochem. Physiol., 19, 197-223.
'Histochemical and spectrophotometric demonstration of peroxidase in Moniezia expansa (Cestoda).' Comp. Biochem. Physiol., 21, 351-5.

DOUGHERTY, E. C.‡ & NICHOLAS, W. L.
'Cultivo y nutrición de micrometazoarios inferiores del suelo y argas dulces.' In Progresos en Biología de Suelo, 699-700, UNESCO.

HOWELL, M. J.**

JHA, R. K. & MACKIE, G. O.‡
'The recognition, distribution and ultrastructure of hydrozoan nerve elements.' J. Morph., 123, 43-62.

MERCER, E. H.§§ & NICHOLAS, W. L.
'The ultrastructure of the capsule of the larval stages of Moniliformis dubius (Acanthocephala) in the cockroach Periplaneta americana.' Parasitology, 57, 169-74.

NICHOLAS, W. L.

SMYTH, J. D.
'Studies on tape-worm physiology. XI. In vitro cultivation of Echinococcus granulosus from the protoscolex to the strobilate stage.' Parasitology, 57, 111-33.

SMYTH, J. D. & HOWKINS, A. B.
'An in vitro technique for the production of eggs of Echinococcus granulosus by maturation of partly developed strobila.' Parasitology, 56, 763-6, 1966.

SMYTH, J. D., MILLER, HELEN J. & HOWKINS, A. B.
'Further analysis of the factors controlling strobilization, differentiation and maturation of Echinococcus granulosus in vitro.' Expl Parasit., 21, 31-41.

‡ Not a member of this University.
* Based on work done while a member of the Department.
** Based on work done prior to joining this University.
§§ A member of the Electron Microscope Unit.
SOUTHCOTT, W. H., HEATH, D. D. & J. P. LANGLANDS†

WEATHERLEY, A. H. (ed.)

WEATHERLEY, A. H.
The inland waters of Australia: Introductory.' In *Australian Inland Waters and their Fauna: Eleven Studies*, 3-17, Australian National University Press.

WEATHERLEY, A. H. & LAKE, J. S.†

WEATHERLEY, A. H., BEEVERS, J. R.† & LAKE, P. S.†
The ecology of a zinc-polluted river.' In *Australian Inland Waters and their Fauna: Eleven Studies*, 252-78, Australian National University Press.

THESES

Thesis titles of work successfully submitted by research students in the Faculty of Science:

'The synthesis of pyrimidines from 1,3-thiazine precursors'. E. N. Cain (*Department of Chemistry*).

'Petrogenesis of the granites at Moonbi, New South Wales'. B. W. Chappell (*Department of Geology*).

'The psycho-physiology of the phasic stretch reflex.' A. M. Clarke (*Department of Psychology*).

'Kinetic studies of an interfacial polycondensation reaction'. P. J. Crawford (*Department of Chemistry*).

'The development of the concept of conservation in Australian aboriginal children'. Marion M. M. P. de Lemos (*Department of Psychology*).

'The integument and moulting process of the southern elephant seal, *Mirounga leonina* (Linn.)'. J. K. Ling (*Department of Zoology*).

'The effect of environment on hybrid vigour and selection response in *Arabidopsis thaliana*'. D. G. Pederson (*Department of Botany*).

'The biology of species of the genus pseudophryne (Anura: Leptodactylidae)' R. K. Pengilly (*Department of Zoology*).

'Depositionnal environments of the Devonian rocks of the Eden-Merrimbula area, New South Wales'. J. Steiner (*Department of Geology*).

'Kinetic investigations of the reactions of sulphonyl halides'. Marie L. Tonnet (*Department of Chemistry*).

'Reproductive biology of *Antechinus stuartii* Macleay (Marsupialia: Dasyuridae)' Patricia A. Woolley (*Department of Zoology*).

'Behaviour of the free-living soil nematoda *Caenorhabditis elegans* (Nematoda: Rhabditidae)'. Philippa A. Andrew (*Department of Zoology*).

'A biosystematic study of *E. Oleosa* F. Muell'. M. I. H. Brooker (*Department of Botany*).

'Some problems in mathematical genetics'. A. B. Chia (*Department of Statistics*).

'A study of judgements of relative likelihood'. M. L. Cook (*Department of Psychology*).

'Lead isotope measurements and their application to volcanic systems'. J. A. Cooper (*Department of Chemistry*).

'Interaction of acids with aromatic solvents'. M. P. Henry (*Department of Chemistry*).

† Not a member of this University.
'Separation and chemical analysis of histological components of keratin fibres'.
N. L. R. King (Department of Chemistry).

'Upper Devonian ostracoda from the Bonaparte Gulf Basin'. P. J. Jones (Department of Geology).

'MDH shock boundary layer interaction'. J. P. Rayner (Department of Physics).

'Reactions of excited molecules'. R. K. Solly (Department of Chemistry).

'Reactions of some cyclic nitrones'. Lalitha Subrahmanyan (Department of Chemistry).
Considerable time and effort have been devoted to the preparation of submissions for the 1970-72 triennium. It is hoped that a rate of growth of approximately 8% per annum can be maintained with a view to achieving a total of 660,000 volumes by the end of 1972. In that year, expenditure of $1,170,000 is envisaged, representing about 5% of total University expenditure. Of the total Library budget 50% will be required for the purchase of books and related materials and the remainder for salaries and wages. The expenditure on books is designed to maintain book stocks at present levels of about 200 per undergraduate and 700 per postgraduate student. A sustained effort will be required in subsequent triennia to augment book stocks to a level of 300 volumes per undergraduate and 1,000 per postgraduate student; a not uncommon provision in the more highly developed university libraries overseas. Although these figures ignore staff numbers, they are frequently used in assessing the relative size of libraries.

Long-term plans are not confined to the forthcoming triennium. Arising out of discussion on the future development of the Library, the Vice-Chancellor appointed a committee to consider the Librarian’s proposals for separate undergraduate and research collections and the structural consequences likely to arise therefrom. It is hoped that in the course of 1968 it will be possible to submit definite proposals to Council on this and related matters.

The intake of books acquired by purchase, gift and exchange is indicated in the following table:

<table>
<thead>
<tr>
<th></th>
<th>Purchases</th>
<th>Gifts</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Institute of Advanced Studies</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Library</td>
<td>11,697</td>
<td>3,001</td>
<td>14,698</td>
</tr>
<tr>
<td>Branch Libraries</td>
<td>6,034</td>
<td>564</td>
<td>6,598</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17,731</td>
<td>3,565</td>
<td>21,296</td>
</tr>
<tr>
<td><strong>The School of General Studies</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Library</td>
<td>9,814</td>
<td>1,191</td>
<td>11,005</td>
</tr>
<tr>
<td>Law</td>
<td>1,513</td>
<td>202</td>
<td>1,715</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>11,327</td>
<td>1,393</td>
<td>12,720</td>
</tr>
<tr>
<td><strong>Oriental Studies</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western Languages</td>
<td>786</td>
<td>114</td>
<td>900</td>
</tr>
<tr>
<td>Oriental Scripts</td>
<td>3,536</td>
<td>327</td>
<td>3,863</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>4,322</td>
<td>441</td>
<td>4,763</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>33,380</td>
<td>5,399</td>
<td>38,779</td>
</tr>
</tbody>
</table>
At 31 December the total stock of the Library was:

- The Institute of Advanced Studies: 235,260*
- The School of General Studies: 142,647†
- Oriental Studies: 78,931

Total: 456,838

A noteworthy collection of Celtic books was presented, through the good offices of His Excellency the Ambassador for Ireland, by the Augustinian Fathers as the nucleus of what will be designated The Archbishop Duhig Memorial Collection. Additional books will be purchased from funds made available by the Irish Government and by a number of Irish Associations in Australia. Other donations included some 400 volumes from the library of the late John Bottoms, formerly Lecturer in Malay at the School of Oriental and African Studies at the University of London, 200 volumes of Japanese works presented by their publishers, and fifty volumes comprising the exhibition of the outstanding German books of 1964 which had previously been on display in the R. G. Menzies Building and other university libraries throughout Australia, and which were presented by the German Embassy.

The pattern of Library use is revealed in the statistics set out below:

<table>
<thead>
<tr>
<th></th>
<th>1965</th>
<th>1966</th>
<th>1967</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transactions recorded at Loans Desks</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Institute of Advanced Studies</td>
<td>55,473</td>
<td>54,866</td>
<td>61,010</td>
</tr>
<tr>
<td>The School of General Studies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reserved Books</td>
<td>117,860</td>
<td>134,738</td>
<td>131,831</td>
</tr>
<tr>
<td>Others</td>
<td>56,625</td>
<td>64,337</td>
<td>74,812</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>229,958</td>
<td>253,941</td>
<td>267,653</td>
</tr>
</tbody>
</table>

**Inter-Library Loans Borrowed**

<table>
<thead>
<tr>
<th></th>
<th>1965</th>
<th>1966</th>
<th>1967</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Institute of Advanced Studies</td>
<td>5,307</td>
<td>4,435</td>
<td>4,505</td>
</tr>
<tr>
<td>The School of General Studies</td>
<td>2,356</td>
<td>2,063</td>
<td>1,458</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>7,663</td>
<td>6,498</td>
<td>5,963</td>
</tr>
</tbody>
</table>

**Lent**

<table>
<thead>
<tr>
<th></th>
<th>1965</th>
<th>1966</th>
<th>1967</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Institute of Advanced Studies</td>
<td>4,817</td>
<td>4,701</td>
<td>5,69</td>
</tr>
<tr>
<td>The School of General Studies</td>
<td>585</td>
<td>824</td>
<td>826</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5,402</td>
<td>5,525</td>
<td>5,895</td>
</tr>
</tbody>
</table>

* Including 420 items transferred from Oriental Studies.
† Including 1,350 items transferred from Oriental Studies.
A significant feature of the year’s work was the considerably increased use by properly qualified undergraduates of the research collections in the R. G. Menzies Building—

<table>
<thead>
<tr>
<th></th>
<th>1965</th>
<th>1966</th>
<th>1967</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of direct loans to undergraduates in the R. G. Menzies Building</td>
<td>1,130</td>
<td>2,548</td>
<td>8,095</td>
</tr>
</tbody>
</table>

It is interesting to observe the growth of external interest in Australian National University theses—

<table>
<thead>
<tr>
<th></th>
<th>1965</th>
<th>1966</th>
<th>1967</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Australian National University theses lent to other libraries or supplied in photo facsimile</td>
<td>28</td>
<td>42</td>
<td>53</td>
</tr>
</tbody>
</table>

A new loans system was instituted which will, it is hoped, provide a more effective control over borrowing and expedite the return of books to the Library.

The serials section of the Advanced Studies collection was reorganised and a United Nations Document unit was established.

A scientific bibliography service, which had previously been available on a limited basis, was formally instituted under a senior staff member in the R. G. Menzies Building.

An appointment was made late in the year to the post of instructor in Library use attached to the General Studies section of the Library.

The first full year’s operation of the reorganised cataloguing section proved highly satisfactory.

<table>
<thead>
<tr>
<th></th>
<th>1964</th>
<th>1965</th>
<th>1966</th>
<th>1967</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of new titles catalogued and classified</td>
<td>11,250*</td>
<td>14,500*</td>
<td>15,750*</td>
<td>24,992†</td>
</tr>
</tbody>
</table>

This result was achieved with no additional professional staff. All newly purchased books were processed on receipt and considerable progress was made in the clearance of the backlog, which was reduced through the year from 12,000 to 4,000 volumes. In addition, 4,000 to 5,000 volumes received over a number of years in the form of block donations await full cataloguing treatment. In the meantime, all these arrears are recorded in the author catalogue and may be obtained by any reader on request. A start has been made on reclassification of books already in the library. A total of 9,885 titles has been transferred from Dewey or Bliss classification to Library of Congress classification and valuable experience has been gained which should result in speedier handling of the remainder.

Mrs M. Day was promoted to the vacant post of Assistant Librarian in charge of reference services in the Advanced Studies section.

The Librarian spent four weeks visiting Papua and New Guinea, the British Solomon Islands Protectorate, New Hebrides, New Caledonia and Fiji, with the purpose of ensuring regular supply to the Library of material which is not readily available through normal book trade channels. He also arranged for the co-ordination of library services between the New Guinea Research Unit, the University of Papua and New Guinea, and the Administrative College in

* Approximately.
† Actual.
Port Moresby. In furtherance of this object a senior cataloguer has been seconded from the R. G. Menzies Building to work for a period of five months in the library of the New Guinea Research Unit.

The Fourteenth Biennial Conference of the Library Association of Australia was attended by the Librarian and several staff members, some of whom contributed papers, chaired sessions or acted as representatives on specialised committees.

Excellent progress was made with Stage II of the General Studies Building of the Library; some of the new accommodation was occupied before the end of the year and the remainder will be available for use by undergraduates at the beginning of First Term 1968; the building promises to fulfil aesthetic and functional expectations. The beautifully appointed library in the Research School of Chemistry was structurally completed and will be occupied as soon as furniture and fittings are acquired. A major modification of the foyer at the R. G. Menzies Building was carried out with the object of providing more effective control of ingress and egress, of rationalising the reference services and making provision for the housing of exhibitions in such a way that there will be minimum interference with the routine operations of the Library. The Oriental collection which had outgrown its cramped quarters on the lower ground floor of the R. G. Menzies Building was moved to the first floor, a considerable improvement in working conditions for both readers and the library staff concerned.

In addition to the normal sequence of book exhibitions held from time to time in the R. G. Menzies Building, the following merit special mention: Auguste Rodin—Sculpture and Painting; Indian Arts and Crafts; Die schönsten deutschen Bücher, 1965; Arts and Crafts; Katherine Mansfield—Manuscripts and Letters; Asian and Promethean Studies.

PUBLICATION

Stockdale, N. & Graneek, J. J.

At the end of 1967 the composition of the Governing Body was as follows:

**Master:** Emeritus Professor A. D. Trendall.

**Fellows:** Retiring 15 August 1968: Mr S. I. Benn, Mr R. P. Creaser, Dr Germaine Joplin (Steward), Mr G. B. Ralston, Dr C. A. Tisdell (Bursar).

Retiring 15 August 1969: Dr J. F. Lovering, Professor Hanna Neumann, Professor G. H. Newstead (Deputy Master).

The Master was in residence throughout the academic year, but left on 17 November for just over three months on study leave, preparatory to his retirement in March 1969. In August his book *The Red-figured Vases of Lucania, Campania and Sicily* was published by the Clarendon Press, and the second, and much enlarged, edition of *Phlyax Vases* appeared in October as one of the publications of the Institute of Classical Studies, London. Professor Trendall is gathering material for a book on 'Ornate' Apulian vase-painting, which will complete his studies of South Italian red-figured pottery.

The Chancellor, Lord Florey of Adelaide, stayed in the House from 25 March to 15 April.

On the recommendation of the Master and Fellows, Council elected Emeritus Professor Sir Mark Oliphant, K.B.E., to Honorary Fellowship in recognition of his outstanding contribution to the University and to University House, of which he was a Fellow from 1954 to 1957, and Deputy Master from 1955 to 1957.

There was little change in the number of members which stands at just over 500, of whom forty-two are Invited Members. There was a substantial increase in the number of Visitor Members, many of whom resided in the House.

During the year the number of students working for the degree of Doctor of Philosophy in residence averaged eighty-two, a slight drop on the figure for previous years. This is probably due to a notable increase in amount of alternative accommodation available, and to the fact that several students have been attracted to the halls of residence either as sub-wardens or by their lower tariff. It is also noteworthy that the demand for the rooms in East and West Wings (study-bedroom and bathroom) fell appreciably; whereas in 1964-65 there was a waiting list for this type of accommodation, in 1966-67 there was a marked preference for the cheaper rooms in the Eastern Annexe and of the forty-three rooms available for students in the East and West Wings only twenty-three were in regular occupation by students. The considerable increase, however, in the number of visitors, both long-term and casual, enabled the House to maintain a high occupancy rate throughout the year.

No change was made during the year in the tariffs for permanent residents, but the casual rates were increased by approximately 50 cents per day from 1 June. To meet the steady rises in costs it will be necessary to increase tariffs early in 1968 by about 8%, and there will also be consequential increases in the cost of casual meals and special catering.
Visitors from overseas who stayed in University House for one month or more included: Dr Violet R. Cane (University of Cambridge); Dr Li Chi (Academia Sinica, Taipei); Professor Rhoda M. Dorsey (Goucher College); Professor J. G. Fleming (University of California); Dr and Mrs E. D. Ghent (Victoria University of Wellington); Dr Jane Goodale (Bryn Mawr College); Mr R. Gray (London); Sir John and Lady Hicks (University of Oxford); Professor and Mrs T. W. Hutchison (University of Birmingham); Professor R. W. Jones (University of Rochester); Professor N. Kemmer (University of Edinburgh); Dr A. M. Lane (AERE, Harwell, England); Professor and Mrs L. B. Loeb (University of California); Dr K. N. Malakhowski (Moscow State University); Professor Y. Oshima (Waseda University); Dr S. Otok (University of Warsaw); Dr K. R. Parthasarathy (University of Sheffield); Professor K. Sinclair (University of Auckland); Professor and Mrs M. H. Stone (University of Chicago); Dr S. Swierczkowski (University of Washington).

Many other overseas scholars and visitors have been in residence for shorter periods, notably: Professor K. M. T. Atkinson (Queen's University); Professor and Mrs M. Beloff (University of Oxford); Professor Muriel Bradbrook (University of Cambridge); Sir George and Lady Cartland (University of Birmingham); Professor F. J. Dyson (Princeton University); Sir Robert Hall (University of Oxford); Dr H. Jaeger (Humboldt University of Berlin); Sir Harrie and Lady Massey (University College, London); Professor and Mrs C. Maxia (University of Cagliari); Professor H. Naora (National Cancer Center, Japan); Dr P. A. Narashima Murthy (Indian School of International Studies, New Delhi); Professor S. Okita (Japan Economic Research Centre); Mr G. Putt (The Commonwealth Fund); Professor M. S. Rajan (Indian School of International Studies, New Delhi); Lord James of Rusholme (University of York); Professor Y. Sakamoto (University of Tokyo); Professor D. Shirkov (Academgorodok, Novosibirsk); Professor Chen Ning Yang (State University of New York, Stony Brook).

In addition to the above, many members of the staffs of Australian universities and national institutions stayed in the House.

The Library was reorganised and some new shelving provided to cope with the increasing flow of accessions. Two thousand and thirty loans were recorded and sixty-one new books acquired, partly by donation and partly by purchase. The Library received several notable gifts during the year, including a complete set of the Dictionary of National Biography from the British Council and the first volume of the Canadian Dictionary of Biography from the Toronto Press.

Subdued lighting was installed in the Music Room. During the year twenty new records were purchased and five were donated.

The usual Commencement Dinner was held on Tuesday, 7 March, when a short choral program was presented by the Australian National University Choral Society. The Annual Dance was held on 7 April, with supper in Hall and dancing in the Common Room, with an attendance of about 250. Guest Nights were held on 28 June and 25 October. Both were attended to capacity and at the former the University Consort was a program of madrigals.

Two Annual Lectures were held in the House—one sponsored by the Research Students' Association on 28 September and given by Dr D. E. Butler on
'Political Television'; and one sponsored by the Australian Humanities Research Council given by Professor Kathleen Fitzpatrick on 'Henry James and the influence of Italy'.

The Professorial Board tendered a farewell dinner to Sir Leonard Huxley, the retiring Vice-Chancellor, in Hall on 17 November.

Perhaps the most important activity of the year was the organisation of a Wine Symposium, held in the House on 1 and 2 September. Many experts in the field were invited to participate or to read papers on different aspects of wine and its production in Australia. Eight papers were presented; two lunches were held at which different vintages of white and red wines were sampled and discussed; a wine-tasting was held one evening, and on the other a formal dinner accompanied by a remarkable selection of Australian wines. The symposium was regarded as highly successful and resulted in the acquisition of a number of interesting wines for the House cellar, including some specially bottled and labelled for the occasion.

Resident's Committee

The Residents' Committee under the chairmanship first of Dr P. Arriens and later of Mr J. Worden was very active throughout the year. Regular showings of films were arranged and a number of evening parties, often with an international flavour, were held, together with regular welcomes to new residents. An exhibition of the works of local artists was held.

Gifts and Donations

A sum of $A5,625 was made available to the Committee by the Gulbenkian Foundation for the purchase of contemporary European, American and Australian paintings and graphics. The Committee has already acquired a number of local paintings, together with a selection, made in London by Mr G. Dawson, of American and European works.

Dr E. Kamenka presented a piece of metal sculpture by Donald Brook. Two more sets of silver salt and pepper shakers designed by Ron Rosenfeld were purchased from the Special Gift Fund, making use of donations from Dr M. R. Rees and Miss V. R. Cane; and the retiring Vice-Chancellor presented to the House a pair of silver candlesticks designed by Ron Rosenfeld.

Publications

Trendall, A. D.


'The fratte painter.' _Apollo_, 3-4 (1963-4), 15-32.

'Archeology in South Italy and Sicily, 1946-66.' _Archaeological Reports_, 13, 29-46.

Trendall, A. D. & Cambitoglou, A.*


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*Not a member of this University.
The halls continued to offer accommodation and facilities for conferences during the vacation periods. Garran Hall remained open over the Christmas and New Year period 1967-68 to accommodate research and overseas students remaining in residence at the University.

The University continued to assist students in obtaining private residential accommodation and it was possible to find suitable accommodation for all students who sought assistance.
The past year was one of consolidation and development based on the experimentation and experience of 1966, when the office was first established. From my point of view, I can honestly say that I enjoyed the duties and responsibilities of the office. My first concern is to acknowledge with gratitude the generous measure of understanding I received from my colleagues on both the student and administration sides. The former Vice-Chancellor, Emeritus Professor Sir Leonard Huxley, smoothed the way for solutions of many latent problems by his great humanity and his instant response to my frequent pleas for advice, whilst in Mr A. Brooks and his fellow members of the Students' Representative Council, I found the most ready willingness to discuss matters of concern to students before considering any independent action. I do not believe that 1967 was a 'quiet' year because of apathy on the part of Australian National University students, but largely because of the two so-called factions in the University, namely, the undergraduate student body and the administration, were kept in reasonably close contact with each other, and had speedy access to two principal forums of discussion—The Vice-Chancellor's Liaison Committee, which met over luncheon about once a term, and the Dean of Student's Informal Discussion Group, which met once a month during term. In the successful operation of the latter group, I must refer to the magnificent contribution made by Mr G. E. Dicker, Assistant Registrar, who could almost invariably supply instant and most satisfactory answers to questions from the group participants.

It should go on record that in 1967 no misdemeanour was reported that required the convening of the University Disciplinary Committee, nor was the Vice-Chancellor directly involved in any matter of student discipline. Minor disciplinary matters involving the collection of library fines and some consequent disciplinary fines have, however, been an unnecessarily time-consuming task and steps are being taken to obviate the need for further such action by the Dean of Students.

During the year, I continued my membership and interest in a wide variety of committees concerned with student welfare. I believe that it is important that the Dean of Students be closely associated with such bodies as the Student Welfare Committee, the Performing Arts Council, the University Union, the Sporting Facilities Committee and the Halls of Residence Committee. Many worthwhile concessions can be achieved for students through official interest and support of these bodies and the students are in turn, thereby encouraged to express their opinions.

In handing over to Professor Hanna Neuman, I did so with a real belief that she will find the office a very rewarding and interesting one.

The University Health Service directed by Dr S. B. Furnass continued and expanded its valuable activities in the fields of social and preventive medicine. Members of the Canberra general practitioner and social services rendered close co-operation, and the Director was ably assisted by two nursing sisters living in University halls of residence. A Sports Clinic was established for the treatment and rehabilitation of sports injuries, and also to promote greater participation by members of the University in extra-curricular activities.
During Second Term a pilot health survey of a volunteer group of full-time, second-year, male students was undertaken. Further investigations of this type will attempt to determine the correlation between personal health and academic achievement and will also initiate preventive medical measures.

The University Counselling Service under Mr J. E. Gough completed its third year of operation. There was considerable expansion in the fields of interest and work in counselling careers and appointments, and efficient reading. Mr Gough was assisted by two part-time staff and a full-time Careers and Appointments Officer was appointed.

The service is clearly becoming widely known and is achieving a high reputation throughout all sections of the University. Liaison established with several of Canberra's secondary schools provided valuable information that should aid new students in their problems of transition to University life.

The welfare services continue to be housed in temporary quarters on the second floor of the Copland Building.

During the year, the Research Students' Association negotiated with the University on the integration of the various fees for membership of clubs and societies into one general services fee. The discussions have already produced a greater liaison between the various student groups, and it is hoped that this trend will continue. There has been a notable increase in the number of research scholars participating in group sports and we are looking forward to the completion of further sporting facilities.

Student accommodation was discussed with University Administration, both with regard to the family units at Garran and the new hall of residence for single scholars. We are hopeful that, in the future, the University may be in a position to provide additional housing for married scholars without families, to supplement the excellent accommodation now fully utilised at Turner.

The thesis typing scheme has functioned well over the year with almost 200 members. An increasing number of students is using the offset printer, resulting in an overall improvement in the legibility of all copies. The scheme now caters for the great majority of students, including those submitting mathematical and scientific theses.

The welfare fund of the Association was extended over the year with the allocation of interest free loans to members. It is hoped that the recent increase in fees for the Research Students' Association will permit the continuation of the present rate of growth without a more rigorous selection of applicants.

The Annual Lecture was delivered by Dr D. E. Butler, University of Oxford, in September. His topic, 'Political Television', attracted a receptive audience.

During 1967 the activities of the Students' Association continued to be wide in operation. The Students' Representative Council represented the opinion and interest of students to the general public and to the University Administration while at the same time providing a focus for diverse student activities.

Internal reconstruction of the Students' Representative Council has made it more able to inquire into and provide for student needs. Close examination has been made of the financial problems of students during their life at University and
a review has been made of the Student Loan Fund. The student employment service of the Students' Representative Council continued to help students to earn additional income. The acute difficulty of obtaining part-time jobs in Canberra, however, has led to a major reorganisation of the employment service. The University agreed to provide a full-time member of staff to attend to part-time employment opportunities and this will provide a much needed and useful service.

Clubs and Societies continued to develop and provide specialised and absorbing interest for both students and members of the public. Guest speakers especially stimulated discussion on numerous and controversial topics. Societies with cultural interests did much to provide university life with wide ranging and original displays and entertainment.

Thanks to the help and co-operation of Radio 2CA the student radio program commenced its operation during the course of the year. Inexperience and other initial difficulties were soon overcome and the program now provides a useful and novel way of communication to the community of student opinion.

The quantity and quality of student newspapers and publications continue to grow. The student newspaper *Woroni* improved in quality and content and at the same time increased its circulation. A further edition of *Prometheus* was published and, as in previous years, this journal was of a high standard. In addition faculty and society journals continued to be academic publications of high quality.

Unfortunately, Bush Week in 1967 was not a financial success and failed to aid local charities. Appeals to the general public for money for the charities were not successful and the activities of the week failed to bring the students closer to the community.

The Students' Association continued to contribute to the National Union of Australian University Students. At the same time regular and useful contact was maintained with other universities throughout Australia.

Secretarial assistance for the Students' Representative Council was increased to two full-time female assistants and it is anticipated that in 1968 a step will be taken to share staff with the other student associations at the University. Co-operation with the University Administration and other students' bodies was both frank and useful.

The executive committee of the Sports Union, called the Sports Council, is the controlling body for all sport in the university. Besides promoting and running sport in the University the Sports Council works closely with the University in planning future sports and sporting facilities.

Membership of the Sports Union and its twenty-five affiliated sports clubs is open to all graduate and undergraduate students and people holding a degree from another University, as well as staff members employed at least fifty per cent full-time by the University. Sports Union subscriptions are used to equip and assist the various sports within the University as well as to send teams to various intervarsity contests. University teams regularly take part in all the local sporting competitions.
Mr C. L. Lamb

In 1967 the Union had 2,850 student members, four staff members and twenty-seven life members.

Members of the Board of Management were as follows: Mr C. L. Lamb: Chairman, elected by the general membership to the Board at the Union elections held in August 1967; Professor D. A. Brown: the Vice-Chancellor's nominee; Mr A. T. Shakespeare: appointed by Council; The Bursar (Mr W. S. Hamilton): ex officio; Professor J. D. Smyth and Professor L. F. Crisp: appointed by the Staff Association; Mr A. Brooks: appointed by the Students' Representative Council; Mr C. D. S. Alexander: appointed by the Sports Council; Mr R. White-law: appointed by the Research Students' Association; Mr C. S. Mansfield, Mr R. G. Fraser, Mr M. S. Tyrrell, Miss J. Chapman and Mr D. H. Solomon: elected by the general membership in August.

In the course of the year constitutional amendments were passed which altered the composition of the Board of Management and increased its membership by one. There is now one representative of the Students' Representative Council and there are six representatives elected by the general membership.

The Union administrative staff consisted of the Secretary to the Board, Mr E. C. de Toth, and ten members of permanent staff. In the middle of the year the Assistant Secretary resigned and a new appointment was made at the last meeting of the Board.

In 1967 revenue from membership fees, used by the Union for current purposes, was $42,452. This was an increase of $5,452 over 1966 and can be accounted for by a slight increase in membership and the resolution of the problem of compulsory membership for postgraduate students adverted to in the Chairman's Report for 1966.

Entrance fees, used for capital expenditure, provided $9,860 ($8,000 in 1966). Union trading throughout the year showed a loss of several thousand dollars, due largely to an increase in food costs which the Board of Management decided to meet from its financial resources rather than by raising food prices during the year. In 1968 the question of prices is to be reviewed.

Total expenditure on the Income and Expenditure Account in 1967 was $39,000 ($31,500 in 1966).

Pressure on the capital account remained heavy as the Board of Management continued to develop the facilities of the building, and capital expenditure in 1967 was $8,628.

Activities in the Union continued to expand with the opening of new catering services and the addition to existing ones under the extremely competent direction of the new catering supervisor, Mr H. R. Howard. The Union Shop reported increased turnover and profit for the year, and in spite of some financial difficulties 1967 proved a good year for Union activities.
Union Nights continued to grow in popularity and served a wide variety of student interests. Debates again prospered, and the parliamentary nights were stimulated by the participation of several members of parliament and of a number of colourful personalities.

The Union Art Exhibition was again as successful as it was controversial. Both the exhibition and the Union Dinner proved popular functions and attracted wide interest.

Facilities

Once again it is necessary to reiterate that the Union is sadly lacking in nearly all types of facilities. It has minimal games and common room space which will become less and less satisfactory as Union membership increases. The Union is virtually unable to provide basic comforts at present, and until the submission made by the Board to the University in 1967 for second stage extensions is acted upon a gradual curtailment of the Union's already limited services can be expected. This will be off-set somewhat by the opening in 1968 of the Union Cellar, a project for which the Board of Management has set aside and will spend about $30,000. Its principal use will be in the provision of off-peak services, and it cannot therefore be expected to provide any substantial relief to the other strained services.

Facilities for limited alcoholic refreshment were again discussed in 1967, and it is hoped that the question is not neglected in 1968.

The Union was fortunate in acquiring a portrait painted by Gray Smith, the noted artist, of Lady Huxley, the retiring Vice-Chancellor's wife. The portrait is at present displayed on the top floor of the Union.

Gift

The Union gratefully acknowledges the donation of a large oil painting by the University Creative Arts Fellow for 1966, John Percival. This valuable acquisition is displayed on the Ellery Circuit level of the Union.

Finally, it is important that the Union places on record how appreciative it is of the help given it over the year by the Registrar and his staff.
BUILDING PROGRAM SUMMARY

Buildings Completed in 1967
Zoology/Psychology Animal House
North Oval (civil engineering works and planting)
Isotope Laboratory, John Curtin School of Medical Research
Research School of Chemistry:
Stage I
Stage II
Maintenance Depot Extensions

Date Completed
June
October
October
July
November
November

Buildings Under Construction in 1967
Botany Building
Forestry Building
University Library—Completion of General Studies Building
H. C. Coombs Building Lecture Theatre
Conversion of Building for Research School of Biological Sciences
Chancellry Stage IIB
Law Building
Geology Building Extension
Geophysics Building Extension (Stage I)
New Guinea Research Unit Administrative Building
Arts Building Extension
Nuclear Physics Building Extension
Conversion of Building for Biochemistry, School of General Studies
Extension and conversion of Wing F, John Curtin School of Medical Research—for Animal Breeding Unit

Estimated Completion Date
February 1968
March 1968
March 1968
May 1968
March 1968
February 1968
October 1968
November 1968
August 1968
June 1968
August 1968
April 1968
March 1968
February 1968

Buildings Being Planned
Pavilion for North Oval
Zoology Building Completion
Residence at Siding Spring Observatory
New Guinea Research Unit—Residence
Completion of H. C. Coombs Building and Laboratory Block
Postgraduate Hall of Residence
Psychology Building
Copland Building Lecture Theatre
Chemistry Building Extension
## UNIVERSITY STATISTICS

### FULL-TIME STAFF

**As at 31 July 1967**

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<th>Designation</th>
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FULL-TIME STAFF—continued

AS AT 31 JULY 1967

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### (A) THE INSTITUTE OF ADVANCED STUDIES—RESEARCH STAFF

**As at 31 July 1967**

<table>
<thead>
<tr>
<th>Departments, etc.</th>
<th>Professors</th>
<th>Senior Research Fellows, Readers</th>
<th>Senior Research Fellows, Departmental Assistants</th>
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16876/68—10 139
(A) THE INSTITUTE OF ADVANCED STUDIES—RESEARCH STAFF

As at 31 July 1967—continued

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<th>Departments, etc.</th>
<th>Professors</th>
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<td>Organic Chemistry</td>
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<tr>
<td>Physical and Theoretical</td>
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<tr>
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<td>39</td>
<td>40</td>
<td>108</td>
<td>100</td>
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</table>

140
(B) THE SCHOOL OF GENERAL STUDIES—TEACHING STAFF

AS AT 31 JULY 1967

<table>
<thead>
<tr>
<th>Departments, etc.</th>
<th>Professors</th>
<th>Readers</th>
<th>Lecturers</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td><strong>The Faculty of Arts</strong></td>
<td></td>
<td></td>
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<td>Classics</td>
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<td>Geography</td>
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<tr>
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<td>1</td>
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<td>Russian</td>
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<tr>
<td><strong>The Faculty of Economics</strong></td>
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<tr>
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<td><strong>The Faculty of Oriental Studies</strong></td>
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<td>South Asian and Buddhist Studies</td>
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<tr>
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<tr>
<td>Botany</td>
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<tr>
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<td>Zoology</td>
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<td><strong>Total</strong></td>
<td>34</td>
<td>27</td>
<td>144</td>
<td>265</td>
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### CENTRAL ACADEMIC STAFF

**As at 31 July 1967**

<table>
<thead>
<tr>
<th>Departments, etc.</th>
<th>Professorial Fellow</th>
<th>Research Fellow</th>
<th>Senior Lecturer</th>
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<tbody>
<tr>
<td>Computer Centre</td>
<td>1</td>
<td>1</td>
<td>..</td>
<td>3</td>
</tr>
<tr>
<td>Adult Education</td>
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<td>1</td>
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<tr>
<td><strong>Total</strong></td>
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ENROLMENTS
To 31 July 1967

<table>
<thead>
<tr>
<th></th>
<th>Full-time</th>
<th>Part-time</th>
<th>Total</th>
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<tbody>
<tr>
<td><strong>The Institute of Advanced Studies</strong></td>
<td></td>
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</tr>
<tr>
<td>Ph.D. Course</td>
<td>429</td>
<td>39</td>
<td>468</td>
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<tr>
<td>Courses of research not leading to a degree</td>
<td>16</td>
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<td>16</td>
</tr>
<tr>
<td>Total: The Institute of Advanced Studies</td>
<td>445</td>
<td>39</td>
<td>484</td>
</tr>
<tr>
<td><strong>The School of General Studies</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Higher Degree Courses—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.A.</td>
<td>37</td>
<td>102</td>
<td>139</td>
</tr>
<tr>
<td>M.A. (Oriental Studies)</td>
<td>5</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>M.Ec.</td>
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<td>20</td>
<td>21</td>
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<tr>
<td>LL.M.</td>
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<td>5</td>
<td>7</td>
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<tr>
<td>M.Sc.</td>
<td>16</td>
<td>51</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>61</td>
<td>182</td>
<td>243</td>
</tr>
<tr>
<td>Bachelor Degree Courses—</td>
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<tr>
<td>B.A.</td>
<td>619</td>
<td>734</td>
<td>1,353</td>
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<tr>
<td>B.A. (Oriental Studies)</td>
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<td>113</td>
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<tr>
<td>B.Ec.</td>
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<td>233</td>
<td>338</td>
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<tr>
<td>LL.B.</td>
<td>191</td>
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<td>322</td>
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<tr>
<td>B.Sc.</td>
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<td>109</td>
<td>422</td>
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<tr>
<td>B.Sc. (Forestry)</td>
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<td>6</td>
<td>105</td>
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<tr>
<td></td>
<td>1,406</td>
<td>1,247</td>
<td>2,653</td>
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<tr>
<td>Miscellaneous (Single Units) (not for any purpose referred to above)</td>
<td>13</td>
<td>134</td>
<td>147</td>
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<tr>
<td>Total Enrolments in the School of General Studies</td>
<td>1,480</td>
<td>1,563</td>
<td>3,043</td>
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<tr>
<td>Number of students effecting more than one enrolment in the School of General Studies</td>
<td>75</td>
<td>7</td>
<td>82</td>
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<tr>
<td>Total Students in the School of General Studies</td>
<td>1,405</td>
<td>1,556</td>
<td>2,961</td>
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<tr>
<td>Number of students enrolled in both the Institute of Advanced Studies and the School of General Studies</td>
<td>25</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>Total Number of Students in the University</td>
<td>1,825</td>
<td>1,590</td>
<td>3,415</td>
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<td>New Students in 1967</td>
<td>526</td>
<td>628</td>
<td>1,154</td>
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## ASSISTED STUDENTS

To 31 July 1967

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td><strong>Higher Degree Students</strong></td>
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</tr>
<tr>
<td>Commonwealth Government Assistance</td>
<td>85</td>
<td>12</td>
<td>97</td>
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<tr>
<td>State Government Assistance</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>University Assistance</td>
<td>346</td>
<td>51</td>
<td>397</td>
</tr>
<tr>
<td>Other Assistance</td>
<td>14</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>446</strong></td>
<td><strong>63</strong></td>
<td><strong>509</strong></td>
</tr>
<tr>
<td><strong>Assistance from more than one source</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Assisted Higher Degree Students</strong></td>
<td><strong>443</strong></td>
<td><strong>63</strong></td>
<td><strong>506</strong></td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Students Other than Higher Degree</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commonwealth Government Assistance</td>
<td>491</td>
<td>167</td>
<td>658</td>
</tr>
<tr>
<td>State Government Assistance</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>University Assistance</td>
<td>333</td>
<td>198</td>
<td>531</td>
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<tr>
<td>Other Assistance</td>
<td>26</td>
<td>3</td>
<td>29</td>
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<td><strong>Total</strong></td>
<td><strong>850</strong></td>
<td><strong>368</strong></td>
<td><strong>1,218</strong></td>
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<tr>
<td><strong>Assistance from more than one source</strong></td>
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<td></td>
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<tr>
<td><strong>Total Assisted Students other than Higher Degree</strong></td>
<td><strong>778</strong></td>
<td><strong>338</strong></td>
<td><strong>1,116</strong></td>
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<tr>
<td><strong>Total Assisted Students at the University</strong></td>
<td><strong>1,221</strong></td>
<td><strong>401</strong></td>
<td><strong>1,622</strong></td>
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### DEGREES CONFERRED

**Year Ended 31 July 1967**

<table>
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<tr>
<th>Degree</th>
<th>Males</th>
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<tbody>
<tr>
<td>Doctor of Science</td>
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<td>1</td>
</tr>
<tr>
<td>Doctor of Philosophy</td>
<td>56</td>
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<td>65</td>
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<tr>
<td>Master</td>
<td>17</td>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>Bachelor</td>
<td>195</td>
<td>108</td>
<td>303</td>
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<tr>
<td><strong>Total Degrees</strong></td>
<td>269</td>
<td>127</td>
<td>396</td>
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</table>
FINANCIAL STATEMENTS
STATEMENT OF ASSETS AND LIABILITIES
AS AT 31 DECEMBER 1967 (i) $  

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td><strong>GENERAL FUNDS</strong></td>
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</tr>
<tr>
<td>Cash at Bank and on Deposit</td>
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</tr>
<tr>
<td>Operating Funds</td>
<td>1,069,327</td>
</tr>
<tr>
<td>Restricted Funds—Cash</td>
<td>842,667</td>
</tr>
<tr>
<td>Investments</td>
<td>17,927</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,929,921</td>
</tr>
<tr>
<td>Cash Held in Imprests</td>
<td></td>
</tr>
<tr>
<td>Commonwealth Superannuation and Provident Reserve—Cash and Securities</td>
<td>3,403,788</td>
</tr>
<tr>
<td>Debtors</td>
<td>160,298</td>
</tr>
<tr>
<td>Advances and Prepayments</td>
<td>694,841</td>
</tr>
<tr>
<td>Materials in Stores and Service Pools (at cost)</td>
<td>472,536</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>6,676,182</td>
</tr>
<tr>
<td><strong>Fixed Assets</strong></td>
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</tr>
<tr>
<td>Buildings (at cost or valuation)</td>
<td>28,140,692</td>
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<tr>
<td>Buildings and Service Installations</td>
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</tr>
<tr>
<td>Dwellings</td>
<td>4,709,739</td>
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<tr>
<td><strong>Total</strong></td>
<td>32,850,431</td>
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<tr>
<td>Teaching and Research Equipment and Furniture (at cost or valuation)</td>
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<tr>
<td>The Institute of Advanced Studies</td>
<td>11,675,039</td>
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<tr>
<td>The School of General Studies</td>
<td>3,239,208</td>
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<tr>
<td>The Library</td>
<td>229,992</td>
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<tr>
<td>Computer Centre</td>
<td>606,083</td>
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<tr>
<td>Adult Education</td>
<td>9,588</td>
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<tr>
<td>Administration and General Services</td>
<td>621,410</td>
</tr>
<tr>
<td>Residential Properties</td>
<td>388,193</td>
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<tr>
<td><strong>Total</strong></td>
<td>16,769,513</td>
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<tr>
<td>The Library</td>
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</tr>
<tr>
<td>Books and Publications (at cost)</td>
<td>2,343,502</td>
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<tr>
<td>Halls of Residence</td>
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</tr>
<tr>
<td>Buildings (at cost)</td>
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<tr>
<td>Furniture and Equipment (at cost less depreciation)</td>
<td>482,253</td>
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<tr>
<td>Works of Art (at cost)</td>
<td>2,695</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5,783,812</td>
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<tr>
<td><strong>Liabilities</strong></td>
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<tr>
<td>Creditors</td>
<td>372,495</td>
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<tr>
<td><strong>Total</strong></td>
<td>64,050,945</td>
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</table>
### STATEMENT OF ASSETS AND LIABILITIES

**AS AT 31 DECEMBER 1967 (i)—continued**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Accumulation Account (ii)</td>
<td>$59,533,946</td>
</tr>
<tr>
<td>Restricted Funds (vi)</td>
<td>$860,594</td>
</tr>
<tr>
<td>Commonwealth Superannuation and Provident Account Reserve</td>
<td></td>
</tr>
<tr>
<td>Cash and Securities</td>
<td>$3,403,788</td>
</tr>
<tr>
<td>Properties included in Fixed Assets</td>
<td>$252,617</td>
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<tr>
<td>Trust and Agency Funds (vii)</td>
<td>$921,597</td>
</tr>
<tr>
<td>Contingent Liability</td>
<td></td>
</tr>
<tr>
<td>Guarantees—Staff Housing Loans Program</td>
<td>$226,490</td>
</tr>
</tbody>
</table>

The above Statement of Assets and Liabilities and the accompanying Statement of Income and Expenditure have been examined and are in agreement with the accounts, which have been audited. In my opinion, they show fairly the financial operations for the year ended 31 December 1967, and the state of the affairs of the Australian National University as at that date.

**V. J. W. SKERMER**  
*Auditor-General for the Commonwealth*  
25 June 1968
**CAPITAL ACCUMULATION ACCOUNT**

**FOR THE YEAR ENDED 31 DECEMBER 1967 (ii)**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount ($)</th>
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</thead>
<tbody>
<tr>
<td><strong>Balance, 1 January 1967</strong></td>
<td>52,653,738</td>
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<tr>
<td><strong>Add:</strong> Transfer from Income and Expenditure Statement</td>
<td>893,748</td>
</tr>
<tr>
<td><strong>Less:</strong> Adjustment of Stores Issues in previous Income and Expenditure period</td>
<td>72,948</td>
</tr>
<tr>
<td><strong>Gifts Received</strong></td>
<td>893,748</td>
</tr>
<tr>
<td><strong>Commonwealth Grant for Capital Works and Services</strong></td>
<td>72,948</td>
</tr>
<tr>
<td><strong>National Capital Development Commission</strong></td>
<td>5,781,000</td>
</tr>
<tr>
<td><strong>Grant for Sculpture—Bruce Hall</strong></td>
<td>3,000</td>
</tr>
<tr>
<td><strong>Purchases of assets from Restricted Funds</strong></td>
<td>566,567</td>
</tr>
<tr>
<td><strong>Purchases of assets from Trust Funds</strong></td>
<td>17,583</td>
</tr>
<tr>
<td><strong>Profit on sale of houses sold to staff</strong></td>
<td>7,615</td>
</tr>
<tr>
<td><strong>Transfer funds from University Reserve (vi)</strong></td>
<td>11,235</td>
</tr>
<tr>
<td><strong>Less:</strong> Disposal of equipment and adjustment of book values</td>
<td>243,921</td>
</tr>
<tr>
<td><strong>Transfer of assets to University Union</strong></td>
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<tr>
<td><strong>Proceeds of houses sold to staff and transferred to Staff Housing Replacement Reserve</strong></td>
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<tr>
<td><strong>Balance, 31 December 1967 as Contra to Assets in Statement of Assets and Liabilities (i)</strong></td>
<td>59,533,946</td>
</tr>
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</table>
STATEMENT OF INCOME AND EXPENDITURE

FOR THE YEAR ENDED 31 DECEMBER 1967 (iii)

<table>
<thead>
<tr>
<th>Income</th>
<th>$</th>
<th>$</th>
<th>$</th>
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</thead>
<tbody>
<tr>
<td>Commonwealth Grant for Running Expenses</td>
<td>15,429,000</td>
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</tr>
<tr>
<td>Student and Examination Fees Received</td>
<td>407,392</td>
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<td></td>
</tr>
<tr>
<td>Rentals Received</td>
<td>245,593</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sundry Income</td>
<td>92,570</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Income</strong></td>
<td>16,174,555</td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>$</th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Institute of Advanced Studies (see Analysis attached—iv)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The John Curtin School of Medical Research</td>
<td>1,916,850</td>
<td></td>
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</tr>
<tr>
<td>The Research School of Physical Sciences</td>
<td>2,470,264</td>
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<tr>
<td>The Research School of Social Sciences</td>
<td>1,058,787</td>
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<tr>
<td>The Research School of Pacific Studies</td>
<td>1,410,012</td>
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<tr>
<td>The Research School of Chemistry</td>
<td>342,763</td>
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<tr>
<td>The Research School of Biological Sciences</td>
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<tr>
<td>Other Institute Costs</td>
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<td><strong>Total Expenditure</strong></td>
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<table>
<thead>
<tr>
<th>The School of General Studies (see Analysis attached—iv)</th>
<th></th>
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<tbody>
<tr>
<td>The Faculty of Arts</td>
<td>928,236</td>
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<tr>
<td>The Faculty of Economics</td>
<td>320,700</td>
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<td>The Faculty of Law</td>
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<td>The Faculty of Oriental Studies</td>
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<td>The Faculty of Science</td>
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<td>Language Laboratory</td>
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<td><strong>Total School of General Studies</strong></td>
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| Scholarships                                             |       |       | 1,006,286 |
| Department of Adult Education                            |       |       | 53,159    |

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<tr>
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<tr>
<td>Salaries and Wages</td>
<td>398,882</td>
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<td>Payroll Tax</td>
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<td>Superannuation Provision</td>
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<td><strong>Total The Library</strong></td>
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<th>Administration</th>
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<td><strong>Total Administration</strong></td>
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| Carried forward                                          | 13,453,062 |       | 16,174,555 |

149
STATEMENT OF INCOME AND EXPENDITURE

for the Year ended 31 December 1967 (iii)—continued

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<thead>
<tr>
<th>Category</th>
<th>Amount 1</th>
<th>Amount 2</th>
<th>Amount 3</th>
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</thead>
<tbody>
<tr>
<td>Brought forward</td>
<td>$13,453,062</td>
<td>$16,174,555</td>
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<tr>
<td>Miscellaneous</td>
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<td></td>
<td></td>
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<tr>
<td>Council and Committee Expenses</td>
<td>$7,256</td>
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<tr>
<td>Conferences and Functions</td>
<td>$30,045</td>
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<tr>
<td>Subscriptions, Donations and Grants to other organisations</td>
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<tr>
<td>Bad Debts and Fees written off</td>
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<td>University Calendar and Public Relations Materials</td>
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<td>Private Audit and Miscellaneous Expenses</td>
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<tr>
<td>Subventions</td>
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<td>Art Fund</td>
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<td>Publications</td>
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<td>University Films</td>
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<td>Performing Arts Council</td>
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<td>Drama Committee</td>
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<tr>
<td>Medical Teaching—Investigation Expenses</td>
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<tr>
<td>University House facilities provided for General Purposes</td>
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<tr>
<td>University House—Master's Stipend and Secretarial Assistance</td>
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</tr>
<tr>
<td>Warden's Stipend and Secretarial Assistance</td>
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</tr>
<tr>
<td>Bruce Hall</td>
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<tr>
<td>Burton Hall</td>
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<tr>
<td>Garran Hall</td>
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<tr>
<td>Forestry House</td>
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</tr>
<tr>
<td>Lennox House</td>
<td>$587</td>
<td></td>
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<tr>
<td>University Union—Secretary's Salary and Secretarial Assistance</td>
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<td>University Fellowships</td>
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<td>Creative Arts Fellowships</td>
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General Services and Maintenance

<table>
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<tr>
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<th>Amount 1</th>
<th>Amount 2</th>
<th>Amount 3</th>
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</thead>
<tbody>
<tr>
<td>Publications Section—Salaries and Expenses</td>
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<td>Translation Unit—Salaries and Expenses</td>
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<td>Data Processing Unit—Salaries and Expenses</td>
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<td>University Counselling Service</td>
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<td>University Health Service</td>
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<tr>
<td>Visual Aids Unit</td>
<td>$27,069</td>
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<tr>
<td>Efficient Reading Course</td>
<td>$2,703</td>
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<td>Maintenance—Buildings</td>
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<tr>
<td>Maintenance—Other</td>
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<tr>
<td>Watchmen</td>
<td>$30,009</td>
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<tr>
<td>Freight, Supply and Disposal Expenses, General</td>
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<td>Telephone Exchange Costs</td>
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<tr>
<td>Computer Centre</td>
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<tr>
<td>Northbourne House Interest and Outgoings</td>
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Carried forward $15,249,887 $16,174,555
STATEMENT OF INCOME AND EXPENDITURE

FOR THE YEAR ENDED 31 DECEMBER 1967 (iii)—continued

<table>
<thead>
<tr>
<th></th>
<th>$</th>
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<th>$</th>
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<tbody>
<tr>
<td>Brought forward</td>
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<td>.</td>
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<td>15,249,887</td>
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<td></td>
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<td>16,174,555</td>
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</tr>
<tr>
<td>Halls of Residence</td>
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</tr>
<tr>
<td>University House</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Operating Loss (including depreciation)</td>
<td>.</td>
<td>4,667</td>
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<tr>
<td>Undergraduate Halls</td>
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</tr>
<tr>
<td>Operating profit (including depreciation)</td>
<td>.</td>
<td>66</td>
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<tr>
<td>Bruce Hall</td>
<td>.</td>
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<td></td>
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<tr>
<td>Garran Hall</td>
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<td></td>
<td></td>
<td></td>
<td>514</td>
<td></td>
<td>580</td>
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<tr>
<td>Operating Loss (including depreciation)</td>
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<td>5,175</td>
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<td>Burton Hall</td>
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</tr>
<tr>
<td>Forestry House</td>
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<td>13,041</td>
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<tr>
<td>Lennox House</td>
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<td></td>
<td>8,466</td>
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<td></td>
<td></td>
<td>26,682</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>26,102</td>
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<td></td>
</tr>
<tr>
<td>Staff Centre</td>
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<td></td>
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</tr>
<tr>
<td>Operating Loss (including depreciation)</td>
<td>.</td>
<td>151</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>30,920</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15,280,807</td>
</tr>
<tr>
<td>Transfer to Capital Accumulation Account (ii), the predominant part of this balance having been used for the purchase of equipment which is capitalised in the statement of assets and liabilities</td>
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<td>893,748</td>
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</table>
## ATTACHMENT TO INCOME AND EXPENDITURE STATEMENT

### 31 December 1967 (iv)

<table>
<thead>
<tr>
<th>Research and Teaching Materials</th>
<th>Salaries</th>
<th>Pay-roll Tax</th>
<th>Superannuation Provision</th>
<th>Field Research and Service</th>
<th>Administrative and Service</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>THE INSTITUTE OF ADVANCED STUDIES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The John Curtin School of Medical Research</td>
<td></td>
<td></td>
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<tr>
<td>Department of Biochemistry</td>
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<td>Animal Breeding Establishment</td>
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<td>Workshops</td>
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<td>1,916,850</td>
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<tr>
<td>The Research School of Physical Sciences</td>
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<td>Visitors</td>
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<tr>
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<td>752,723</td>
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continued on following page
## ATTACHMENT TO INCOME AND EXPENDITURE STATEMENT

31 December 1967 (iv)—continued

<table>
<thead>
<tr>
<th>Research and Teaching Materials</th>
<th>Salaries</th>
<th>Pay-roll Tax</th>
<th>Superannuation Provision</th>
<th>Travelling Expenses</th>
<th>Administrative and Service Expenses</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
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### The Research School of Pacific Studies

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<td>118,781</td>
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<td>29,959</td>
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<td>21,795</td>
<td>87,438</td>
<td>10,072</td>
<td>120,299</td>
<td>310,781</td>
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<tr>
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<td>..</td>
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</tbody>
</table>

35,183 904,525 21,795 87,438 233,348 127,723 1,410,012

### The Research School of Chemistry

| Research Units | .. | 114,009 | .. | .. | .. | .. | 114,009 |
| General Administration | 74,493 | 35,644 | 4,310 | 17,451 | 625 | 75,566 | 208,089 |
| Workshops | .. | 20,665 | .. | .. | .. | .. | 20,665 |

74,493 170,318 4,310 17,451 625 75,566 342,763

### The Research School of Biological Sciences

| Research Units | .. | 22,162 | .. | .. | .. | .. | 22,162 |
| General Administration | 7,733 | 7,836 | 783 | 991 | 1,090 | 9,735 | 28,168 |
| Workshops | .. | 496 | .. | .. | .. | .. | 496 |

7,733 30,494 783 991 1,090 9,735 50,826

| Other Institute Costs | .. | 22 | 15,467 | .. | 1,248 | 39 | 46 | 16,822 |

Total: The Institute of Advanced Studies 806,518 4,705,969 120,601 491,034 374,471 767,731 7,266,324

### THE SCHOOL OF GENERAL STUDIES

| The Faculty of Arts | .. | 14,202 | 759,944 | 19,500 | 83,518 | 9,490 | 41,582 | 928,236 |
| The Faculty of Economics | .. | 760 | 268,638 | 6,752 | 26,577 | 1,721 | 16,252 | 320,700 |
| The Faculty of Law | .. | 3,345 | 116,270 | 2,915 | 12,080 | 1,097 | 12,685 | 148,392 |
| The Faculty of Oriental Studies | .. | 6,159 | 247,804 | 6,605 | 30,517 | 1,092 | 15,761 | 307,938 |
| The Faculty of Science | .. | 184,917 | 1,126,403 | 29,279 | 114,989 | 21,105 | 86,650 | 1,563,343 |
| Language Laboratory | .. | 1,817 | 9,079 | 227 | 429 | .. | 21 | 11,573 |

Total: The School of General Studies 211,200 2,528,138 65,278 268,110 34,505 172,951 3,280,182

153
## HALLS OF RESIDENCE

### CONSOLIDATED OPERATING STATEMENT

**FOR THE YEAR ENDED 31 DECEMBER 1967 (v)**

<table>
<thead>
<tr>
<th>University House</th>
<th>Bruce Hall</th>
<th>Burton Hall</th>
<th>Garran Hall</th>
<th>Forestry House*</th>
<th>Lennox House†</th>
<th>Staff Centre</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

### Income

- **Tariff Received—Residents**
  - 183,388 140,643 153,831 151,901 34,065 494 664,322
- **Visitors**
  - 42,936 21,974 16,488 8,450 3,500 89,848
- **Membership Fees**
  - 5,256
- **Registration Fees**
  - 5,256 3,500 8,756
- **Reimbursement of Board—House Staff**
  - 5,999 3,809 4,731 188 25 14,752
- **Income from Casual Meals and Catering**
  - 27,392 13,286 4,240 4,212 67 221 72 49,690
- **Sundry Income**
  - 5,256 3,500 8,756
- **Beverage Sales—Net Proceeds**
  - 8,643
- **Canteen Sales—Net Proceeds**
  - 1,633 1,904 1,904 29 5,470
- **Subvention from University**
  - 10,000
- **Rent from Lessee**
  - 10,000

**Total Income:** 242,873 203,462 183,133 180,710 34,132 9,590 6,254 860,154

### Less Expenditure:

#### Operating Costs

- **Cost of Foodstuffs**
  - 57,737 54,119 60,910 59,255 16,971 5,882 719 255,593
- **Fuel, Light, Power and Heating**
  - 23,395 18,075 22,909 22,022 8,404 1,389 248 96,442
- **Cleaning, Laundry and Sundry Materials**
  - 8,826 7,751 7,792 7,369 1,533 438 72 33,781
- **Domestic Staff Wages**
  - 103,207 84,494 67,397 65,565 15,217 7,934 523 344,337
- **Losses, Breakages and Replacements**
  - 1,468 1,959 557 489 171 895 269 5,808
- **Local Transport, Freight and Supply Expenses**
  - 828 297 299 477 8 269 2,178
- **Other Operating Expenses**
  - 641 348 382 270 9 16 108 1,774

**Total Operating Expenditure:** 196,102 167,043 160,246 155,447 42,305 16,562 2,208 739,913

* Ceased operation 22 November 1967.
† Ceased operation 17 February 1967.

Continued on following page
## CONSOLIDATED OPERATING STATEMENT

FOR THE YEAR ENDED 31 DECEMBER 1967 (v)—continued

<table>
<thead>
<tr>
<th></th>
<th>University House</th>
<th>Bruce Hall</th>
<th>Burton Hall</th>
<th>Garran Hall</th>
<th>Forestry House*</th>
<th>Lennox House†</th>
<th>Staff Centre</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
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<td>$</td>
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<tr>
<td><strong>Administrative Costs</strong></td>
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<td>8,417</td>
<td>8,188</td>
<td>3,252</td>
<td>1,047</td>
<td>1,984</td>
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<td>865</td>
<td>360</td>
<td>347</td>
<td>212</td>
<td>61</td>
<td>332</td>
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<td>541</td>
<td>675</td>
<td>10</td>
<td>5</td>
<td>91</td>
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<td>4</td>
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<td>595</td>
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<td>Master's, Fellows' and Residents' Committee Entertainment Expenses</td>
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<td>Warden's Entertainment Expenses</td>
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<tr>
<td>Other Administrative Expenses—Advertising, Appointment, Travelling, etc.</td>
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<td>294</td>
<td>244</td>
<td>197</td>
<td>105</td>
<td>55</td>
<td>66</td>
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<td>29,179</td>
<td>21,573</td>
<td>12,843</td>
<td>12,610</td>
<td>4,001</td>
<td>1,566</td>
<td>2,692</td>
<td>84,464</td>
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</table>

| **Property Maintenance and Service Costs** |                  |            |             |             |                |               |             |        |
| Rates and General Services | 912             | 572        | 330         | 321         | 124            | 6             | 115         | 2,380  |
| Building Maintenance and Repairs | 10,010          | 3,931      | 3,898       | 3,296       | 718            | 349           | 147         | 22,349 |
| Total Costs | 10,922          | 4,503      | 4,228       | 3,617       | 842            | 355           | 262         | 24,729 |

|                  | 236,203          | 193,119    | 177,317     | 171,674     | 47,148         | 18,483        | 5,162       | 849,106 |
| Operating Loss | .                | .          | .           | .           | 13,016         | 8,893         | .           | 21,909  |
| Operating Profit | 6,670           | 10,343     | 5,816       | 9,036       |                |               | .           | 1,092  32,957 |
| Adjustment of Non-Depreciable Items of Inventory | 959Cr           | 210        | 2,212       | 92          |                |               | .           | 113Cr  1,442 |
| Estimated Depreciation on Furniture and Equipment | 12,296          | 10,067     | 8,779       | 8,430       | 329            |                | .           | 1,356  41,257 |
| Adjustment of Overprovision for 1966 | .                | .          | .           | .           | 304Cr          | 427Cr         | .           | 731Cr  |

**Net Operating Loss**

Transferred to University's Statement of Income and Expenditure 4,667 . . 5,175 . . 13,041 . 8,466 151 31,500

**Net Operating Profit**

Transferred to University's Statement of Income and Expenditure . . . . . . 66 . . . 514 . . . . . . 580

* Ceased operation 22 November 1967.
† Ceased operation 17 February 1967.
STATEMENT OF FUNDS GRANTED FOR RESTRICTED PURPOSES
FOR THE YEAR ENDED 31 DECEMBER 1967 (vi)

<table>
<thead>
<tr>
<th>Fund Balances 1 Jan. 1967</th>
<th>Subsidies and Donations Received during 1967</th>
<th>Funds Disbursed or Transferred during 1967</th>
<th>Fund Balances 31 Dec. 1967</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
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THE UNIVERSITY

<table>
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<tr>
<th>Institution</th>
<th>Fund Balances 1 Jan. 1967</th>
<th>Subsidies and Donations Received during 1967</th>
<th>Funds Disbursed or Transferred during 1967</th>
<th>Fund Balances 31 Dec. 1967</th>
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<tr>
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<tr>
<td>School of General Studies Reserve</td>
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<td>..</td>
<td>10,000</td>
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<td>University Art Reserve</td>
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THE INSTITUTE OF ADVANCED STUDIES

The John Curtin School of Medical Research

Anonymous donation for general purposes | 100 | .. | .. | 100

Department of Biochemistry

U.S. National Institutes of Health grant for research in mechanism of action of A.T.P. guanidino phospho-transferases | 1,365 | 27 | 1,237 | 155

U.S. National Institutes of Health grant for research—co-enzyme B12 in ribotide reduction to de-oxyribotides | 659 | 2,253 | 626 | 2,286

U.S. National Institutes of Health grant for research in metabolism of aromatic compounds by micro-organisms | .. | 4,604 | 2,757 | 1,847

Department of Physical Biochemistry

Australian Dairy Board grant for research in lactoglobulins of milk | 147Dr | 1,611 | 1,006 | 458

Department of Microbiology

U.S. National Institutes of Health grant for Fellowship | 87Dr | 447 | 360 | ..

World Health Organization grant for maintenance of regional reference laboratory for anthropod-borne viruses | 2,331 | 1,173 | 419Cr | 3,923

Rockefeller Foundation grant for research | 598Dr | .. | 598Cr | ..

Department of Experimental Pathology

National Heart Foundation of Australia grant for study of the ultra structure of the aortic wall | .. | 3,510 | 3,369 | 141

National Heart Foundation of Australia grant for research—Dr E. G. Cleary | 513 | 2,636 | 3,271 | 122Dr

Department of Physiology

Special Travel Fund | 9 | .. | 9 | ..

Wellcome Trust Fund for purchase of equipment | .. | 1,884 | 1,884 | ..

Muscular Dystrophy Association of America grant No. 2 for research | 300 | .. | 300Dr | ..

U.S. National Institutes of Health grant for research | 1,340 | 5,060 | 5,040 | 1,360

Fund for re-equipment | 32,951 | .. | .. | 32,951

U.S. Public Health Service grant for research in neurochemistry of central synaptic transmission | .. | 2,270 | 969 | 1,301

continued on following page
## STATEMENT OF FUNDS GRANTED FOR RESTRICTED PURPOSES

**for the Year ended 31 December 1967 (vi)—continued**

<table>
<thead>
<tr>
<th>Fund Balances</th>
<th>Subsidies and Donations Received during 1967</th>
<th>Funds Disbursed or Transferred during 1967</th>
<th>Fund Balances 31 Dec. 1967</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biological Inorganic Chemistry Unit</strong></td>
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<td>$</td>
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<tr>
<td>Monsanto Chemicals grant for research in synthesis of metal complexes</td>
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<td>280</td>
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<tr>
<td><strong>Department of Clinical Sciences</strong></td>
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<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Pfizer Pty Ltd grant for assistance with travelling expenses—Dr P. J. Nestel</td>
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<td>..</td>
<td>100</td>
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<tr>
<td>National Heart Foundation of Australia grant for research</td>
<td>..</td>
<td>..</td>
<td>7,889</td>
</tr>
<tr>
<td>Life Insurance Medical Research Fund of Australia and New Zealand grant for research</td>
<td>..</td>
<td>..</td>
<td>5,826</td>
</tr>
<tr>
<td>National Heart Foundation of Australia grant for research</td>
<td>..</td>
<td>..</td>
<td>2,010</td>
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<tr>
<td>National Heart Foundation of Australia grant for research</td>
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<td>4,404</td>
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<tr>
<td>Life Insurance Medical Research Fund of Australia and New Zealand grant for research</td>
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<td>..</td>
<td>1,800</td>
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</tbody>
</table>

**The Research School of Physical Sciences**

| Department of Nuclear Physics | $ | $ | $ | $ |
| Australian Institute for Nuclear Science and Engineering grant for computation of nuclear reactions | 10 | .. | 10 | .. |
| Tandem Generator tube replacement reserve | .. | .. | 5,100 | 22,000 |
| I.B.M. Australia Limited grant for travel | .. | .. | 1,000 | 1,000 |

| Department of Geophysics and Geochemistry | $ | $ | $ | $ |
| Australian Institute of Nuclear Science and Engineering grant for activation studies in rocks | 211 | .. | 211 | .. |
| Metropolitan Water, Sewerage and Drainage Board and Snowy Mountains Hydro-Electric Authority grants for seismological research | .. | .. | 1,477 | 4,099 |
| U.S. National Science Foundation grant for research in differentiation of ferrar dolerites of the McMurdo Sound area | .. | .. | 145 | .. |
| Electron Probe Micro Analyser Fund | .. | .. | 2,054 | 690 |
| Commonwealth Scientific and Industrial Research Organization grant for co-operation with Division of Plant Industry in carbon-14 work | .. | .. | 1,000 | 1,716 |

| Department of Astronomy | $ | $ | $ | $ |
| Myer Foundation grant for International Astronomy Union Symposium | 810Dr | .. | 1,028Cr | 218 |
| International Astronomical Union grant for distinguished visitors | 202 | .. | .. | 202 |
| Carnegie Institution of Washington grant for research | 916Dr | .. | 916Cr | .. |

| Department of Mathematics | $ | $ | $ | $ |
| U.S. Department of Navy grant for research in wind-generated waves | 2,389 | .. | 2,389 | .. |
| U.S. National Science Foundation grant for Fellowship | 447 | .. | 447 | .. |

**The Research School of Social Sciences**

| Department of Law | $ | $ | $ | $ |
| Department of Territories, Territory of Papua and New Guinea, grant for New Guinea legal research studies | .. | .. | 3,989 | 4,285 |

| Department of Economics | $ | $ | $ | $ |
| Australian Banks' grant for visiting professor | 401 | .. | .. | 401 |
| Special Travel Fund | 676 | .. | .. | 676 |

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STATEMENT OF FUNDS GRANTED FOR RESTRICTED PURPOSES
FOR THE YEAR ENDED 31 DECEMBER 1967 (vi)—continued

<table>
<thead>
<tr>
<th>Department</th>
<th>Fund Balances 1 Jan. 1967</th>
<th>Subsidies and Donations Received during 1967</th>
<th>Funds Disbursed or Transferred during 1967</th>
<th>Fund Balances 31 Dec. 1967</th>
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<th>Fund Balances 31 Dec. 1967</th>
<th>Subsidies and Donations Received during 1967</th>
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STATEMENT OF FUNDS GRANTED FOR RESTRICTED PURPOSES
FOR THE YEAR ENDED 31 DECEMBER 1967 (vi)—continued

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<td>3,902</td>
<td>3,888</td>
</tr>
<tr>
<td>World Health Organization grant for hydatids research</td>
<td></td>
<td>1,323</td>
<td>1,364</td>
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<tr>
<td>Rural Credits Development Fund grant for aphid research</td>
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<td>1,787</td>
<td>3,746</td>
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<tr>
<td>World Health Organization grant for research</td>
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<td>1,905</td>
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<tr>
<td>Australian Research Grants Committee grant for investigation of electron transport systems in helminths</td>
<td></td>
<td>12,064</td>
<td>11,440</td>
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<tr>
<td>U.S. National Institutes of Health grant for research in vitro cultivation of echinococcus granulosus</td>
<td></td>
<td>5,067</td>
<td>2,661</td>
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</table>

<table>
<thead>
<tr>
<th>Department of Forestry</th>
<th></th>
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<tbody>
<tr>
<td>Australian Timber Producers Panel grant for purchase of timber for new Forestry Building</td>
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<td>3,434</td>
<td>4,506</td>
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</table>

continued on following page
STATEMENT OF FUNDS GRANTED FOR RESTRICTED PURPOSES
FOR THE YEAR ENDED 31 DECEMBER 1967 (vi)—continued

<table>
<thead>
<tr>
<th>Subsidies and Donations Received during 1967</th>
<th>Funds Disbursed or Transferred during 1967</th>
<th>Fund Balances 31 Dec. 1967</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fund Balances 1 Jan. 1967</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$</td>
<td>$</td>
<td>$</td>
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</tbody>
</table>

| Australian Research Grants Committee grant for research on the effect of growth rate on wood quality | $5,702 | $5,702Dr |
|-----------------------------------------------------------------------------------------------------------------|
| Australian Research Grants Committee grant for research on the ecology of trees | $9,107 | $8,465 | $642 |

SCHOLARSHIPS

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<tr>
<th>Common &amp; Wealth Postgraduate Scholarships</th>
<th>$6,247</th>
<th>$172,500</th>
<th>$164,054</th>
<th>$14,693</th>
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<tbody>
<tr>
<td>General Motors-Holden's Pty Ltd grant for scholarships</td>
<td>$5,974</td>
<td>$9,000</td>
<td>$7,629</td>
<td>$7,345</td>
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<td>British Commonwealth Scholarship and Fellowships and Colombo Plan Scholarships</td>
<td>$12,512</td>
<td>$6,500</td>
<td>$4,259</td>
<td>$14,753</td>
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<tr>
<td>Wheat Industry Research Council Scholarship grant</td>
<td>$1,886</td>
<td>$1,886</td>
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<td>U.S. National Academy of Sciences Aero-Space Postdoctoral Fellowship</td>
<td>$896</td>
<td>$140</td>
<td>$756</td>
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<td>Reserve Bank of Australia 50th Anniversary Postgraduate Scholarship scheme</td>
<td>$640</td>
<td>$782Dr</td>
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<td>Riker Laboratories Pty Ltd Fellowship grant</td>
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<td>National Health and Medical Research Council Scholarship</td>
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<td>$114</td>
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<td>Queen Elizabeth II Fellowship grants</td>
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<td>$39,054</td>
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<td>$4,949</td>
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<td>$2,849</td>
<td>$3,346</td>
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<td>National Parks and Wildlife Service Studentship Awards</td>
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<td>$6,526</td>
<td>$3,794</td>
<td>$5,123</td>
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<td>Leverhulme Trust Fellowship grants</td>
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<td>$8,000</td>
<td>$10,490</td>
<td>$8,000</td>
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<td>Commonwealth Scientific and Industrial Research Organization grants-in-aid for Scholars</td>
<td>$779</td>
<td>$779</td>
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<tr>
<td>Broken Hill Mining Managers Association Studentship</td>
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<tr>
<td>Agricultural Development Council Fellowship</td>
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<td>Drapers Company Scholarship</td>
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<td>Myer Foundation grant-in-aid</td>
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<td>Imperial Chemical Industries of Australia and New Zealand Limited Research Fellowship</td>
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<td>$89</td>
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<td>U.S. National Science Foundation grant for Fellowship</td>
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<td>$7</td>
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GENERAL

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<thead>
<tr>
<th>Grants for Publication of Campanian and Lucanian Pottery</th>
<th>$134</th>
<th>$1,836</th>
<th>$769</th>
<th>$1,201</th>
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<td>Donations for McDonald Collection</td>
<td>$1,567</td>
<td>$67</td>
<td>$75</td>
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<td>Research Scholars' Thesis Typing Scheme</td>
<td>$16,141</td>
<td>$11,177</td>
<td>$27</td>
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<td>Fund for repair of New Guinea Research Unit Houses</td>
<td>$1,700</td>
<td>$5,521</td>
<td>$910</td>
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<td>Fund for repair of Fijian House</td>
<td>$154</td>
<td>$1,133</td>
<td>$879</td>
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<tr>
<td>Art and Library Fund—Library</td>
<td>$1,001</td>
<td>$1,501</td>
<td>$1,892</td>
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<tr>
<td>Art and Library Fund—Bruce Hall</td>
<td>$206</td>
<td>$155</td>
<td>$142</td>
<td>$219</td>
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<tr>
<td>Art and Library Fund—Lennox House</td>
<td>$341</td>
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<tr>
<td>Art and Library Fund—Burton Hall</td>
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<td>$157</td>
<td>$382</td>
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<tr>
<td>Art and Library Fund—Garran Hall</td>
<td>$24</td>
<td>$117</td>
<td>$30</td>
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<tr>
<td>Bruce Hall Staff Amenities Fund</td>
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<td>$271</td>
<td>$290</td>
<td>$21</td>
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<tr>
<td>Bruce Hall Junior Common Room Fund</td>
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<td>$198Dr</td>
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<td>$535</td>
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<tr>
<td>Lennox House Staff Amenities Fund</td>
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<tr>
<td>Burton Hall Junior Common Room Fund</td>
<td>$75</td>
<td>$597</td>
<td>$670</td>
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continued on following page
### STATEMENT OF FUNDS GRANTED FOR RESTRICTED PURPOSES

For the Year ended 31 December 1967 (vi)—continued

<table>
<thead>
<tr>
<th>Fund Balances 1 Jan. 1967</th>
<th>Subsidies and Donations Received during 1967</th>
<th>Funds Disbursed or Transferred during 1967</th>
<th>Fund Balances 31 Dec. 1967</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

#### GENERAL—continued

<table>
<thead>
<tr>
<th>Name of Fund</th>
<th>Subsidies</th>
<th>Donations Received</th>
<th>Funds Disbursed or Transferred</th>
<th>Fund Balances 31 Dec. 1967</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garran Hall Junior Common Room Fund</td>
<td>6</td>
<td>232</td>
<td>238</td>
<td>24</td>
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<tr>
<td>Garran Hall Staff Amenities Fund</td>
<td>3</td>
<td>21</td>
<td></td>
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<tr>
<td>Linguistic Circle Publications Fund</td>
<td>959</td>
<td>285</td>
<td>1,213</td>
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<tr>
<td>Australia-Japan Business Co-operative Committee grant for Gavel</td>
<td>80</td>
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<tr>
<td>Fund for special art acquisition</td>
<td>4,483</td>
<td>9,000</td>
<td>11,334</td>
<td>6,817Dr</td>
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<tr>
<td>Fund for Eccles portrait</td>
<td>194Dr</td>
<td></td>
<td>194Cr</td>
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<tr>
<td>Australia and New Zealand Bank grant for art purchase</td>
<td>200</td>
<td>100</td>
<td>300</td>
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<tr>
<td>Staff Amenities Fund</td>
<td>15,807</td>
<td>50</td>
<td>15,757</td>
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<tr>
<td>Staff Association gift to Staff Centre</td>
<td>400</td>
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<tr>
<td>Computer Facilities Fund</td>
<td>62,134</td>
<td>1,147</td>
<td>62,134</td>
<td>1,147</td>
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<tr>
<td>Chancellery Murals Fund</td>
<td>2,000</td>
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<td>2,000</td>
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<tr>
<td>Fund for Academic Salary Arrears—1964</td>
<td>12,491</td>
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<td>12,491</td>
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<tr>
<td>Fund for Nichol Smith Seminar</td>
<td>2,050</td>
<td></td>
<td>2,010</td>
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<tr>
<td>Donations for Special Purchases for University House</td>
<td>288</td>
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<td>288</td>
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<tr>
<td>Special Purpose Fund for University House</td>
<td>109</td>
<td>150</td>
<td>259</td>
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<tr>
<td>University House Staff Amenities Fund</td>
<td>153</td>
<td>1,233</td>
<td>1,328</td>
<td>58</td>
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<tr>
<td>Seminar—Proposed Faculty of Medicine</td>
<td>26,000</td>
<td>7,377</td>
<td>18,623</td>
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</tr>
<tr>
<td>Professor B. H. Neumann Fund for Prize, Department of Mathematics</td>
<td>5,595</td>
<td>5,595</td>
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<td></td>
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<tr>
<td>Vice-Chancellor’s House Fund</td>
<td>3,750</td>
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<td>3,750</td>
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<tr>
<td>Mount Isa Mines Limited grant</td>
<td>50</td>
<td>50</td>
<td></td>
<td></td>
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<tr>
<td>Timbind Utilization Prize Medal Fund</td>
<td>50</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valedictory to Sir Leonard and Lady Huxley</td>
<td>881</td>
<td>881</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobil Oil Australia Limited grant to University Counselling Service</td>
<td>100</td>
<td></td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

**Total**

907,246 | 975,553 | 1,022,205 | 860,594 |
### UNIVERSITY FUNDS

#### Income Received

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

#### University Funds

- **The Supplementary Superannuation Benefits Fund**
  - 1966 Supplementary Superannuation Benefits Fund: 114,766 26,648 141,414 15,223 126,191 471,515 597,706
- **The Staff Superannuation Scheme—Members' Accumulations**: 79,198 6,979 86,177 27,609 58,568 85,848 144,416
- **Non-Academic Staff Retirement Provision—Cash Accumulations**: 26,827 21,149 48,376 24,469 24,469 384,824 433,290
- **Interest Due to Members' Funds**: 586 586 458 128 512 Dr 384 Dr
- **Mount Stromlo Observatory Fund**: 11,682 11,682 11,682 11,682 3,945 28,414 32,359

#### Gifts and Endowments

- **The Lord Rutherford Memorial Trust Fund**: 8 1 3 8 1 3 7 5 3 6 0 14,744 14,804
- **Morrison Oration Trust Fund**: 74 74 50 24 1,386 1,410
- **Sir Littleton Groom Memorial Scholarships Trust Fund**: 127 127 .. 127 127 2,392 2,519
- **Norwegian-Australian Cultural Trust Fund**: 279 279 540 261 Dr 5,133 4,872
- **Danish-Australian Cultural Trust Fund**: 266 266 .. 266 266 4,869 5,135
- **Swedish-Australian Cultural Trust Fund**: 182 182 .. 182 182 3,508 3,690
- **Canberra University College Public Subscription Fund**: 3 3 .. 3 3 90 93
- **The L. C. & C. Webb Trust Fund**: 4 4 139 135 Dr 135 ..
- **R. G. Menzies Scholarship Fund**: 30,345 30,345 1,522 28,823 .. 28,823
- **A. M. Cohen Trust Fund**: 4,016 4,016 .. 4,016 .. 4,016

#### Prize Funds

- **John Deans Prize Fund**: 10 10 10 .. 206 206
- **Lady Isaacs' Prize Fund**: 13 13 .. 13 280 293
- **Robert Ewing Prize Fund**: 27 27 .. 27 561 588
- **Andrew Watson Prize Fund**: 5 5 5 .. 112 112
- **Sir George Knowles Memorial Prize Fund**: 23 23 24 1 Dr 491 490
- **W. J. Lind Prize Fund**: 5 5 5 .. 110 110
- **Alliance Francaise Prize Fund**: 48 10 58 11 47 177 224
- **R. Tillyard Prize Fund**: 22 22 24 2 Dr 444 442
- **J. B. Chifley Memorial Prize Fund**: 39 39 26 13 769 782
- **Rachel Dorph Memorial Prize Fund**: 12 12 5 7 223 230
- **C.S.R. Chemicals Prize Fund**: .. .. .. 100 Dr 100 ..
- **W. B. Clarke Prize Fund**: 3 3 .. 3 78 81
- **Sundry Prize Funds**: 150 150 150 150 86 156
- **Priscilla Fairfield Bok Prize Fund**: 43 43 43 43 22 1,172 1,194
- **Schlich Memorial Prize Fund**: 530 530 530 530 .. 538 ..

*continued on following page*
### STATEMENT OF TRUST AND AGENCY FUNDS

FOR THE YEAR ENDED 31 DECEMBER 1967 (vii)—continued

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>The Saionji Memorial Scholarship Fund</td>
<td>632</td>
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<td>606</td>
<td>26</td>
<td>26 Dr</td>
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<tr>
<td>The Saionji Memorial Scholarship Fund No. 2</td>
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<td></td>
<td>269</td>
<td>169 Dr</td>
<td>169 Dr</td>
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<tr>
<td>The Vice-Chancellor’s Discretionary Fund</td>
<td>4,175</td>
<td>1,442</td>
<td>5,617</td>
<td>15,215</td>
<td>9,598 Dr</td>
<td>41,622</td>
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<tr>
<td>The Research School of Physical Sciences Faculty Fund</td>
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<td>121</td>
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<td>117 Dr</td>
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<td>The Department of Biochemistry Fund</td>
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<td>The Research School of Social Sciences Faculty Fund</td>
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<td>26</td>
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<td>The Research School of Pacific Studies Faculty Fund</td>
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<td>67</td>
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<tr>
<td>The R. G. Menzies Building of the University Library Retention Fund</td>
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<tr>
<td>Australian Japan Business Cooperation Committee</td>
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<td>111</td>
<td>11 Dr</td>
<td>11 Dr</td>
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<tr>
<td>Total</td>
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<td>38,957</td>
<td>347,142</td>
<td>83,755</td>
<td>263,387</td>
<td>658,210</td>
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## Statement of Trust and Agency Funds

**For the Year Ended 31 December 1967** (vii)—continued

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<thead>
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<th>Investments</th>
<th>Purchase Price</th>
<th>Appreciated Value to Date</th>
<th>Purchase Price</th>
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<tbody>
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<td>The Supplementary Superannuation Benefits Funds</td>
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<td>1966 Supplementary Superannuation Benefits Fund</td>
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<td>The Staff Superannuation Scheme—Members' Accumulations</td>
<td>170,720</td>
<td>168,430</td>
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<tr>
<td><strong>Non-Academic Staff Retirement Provision—Cash Accumulations</strong></td>
<td>16,100</td>
<td>15,940</td>
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<td>Mount Stromlo Observatory Trust Fund</td>
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<td></td>
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<tr>
<td>The Lord Rutherford Memorial Scholarship Trust Fund</td>
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<tr>
<td>Morrison Oration Trust Fund</td>
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<tr>
<td>Sir Littleton Groom Memorial Scholarship Trust Fund</td>
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<tr>
<td>Norwegian-Australian Cultural Trust Fund</td>
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<td>Danish-Australian Cultural Trust Fund</td>
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<td>Swedish-Australian Cultural Trust Fund</td>
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<tr>
<td>Priscilla Fairfield Bok Prize Fund</td>
<td>1,150</td>
<td>1,150</td>
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<tr>
<td>The Vice-Chancellor's Discretionary Fund</td>
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<tr>
<td><strong>Total</strong></td>
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<td>Schlich Memorial Prize Fund</td>
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<tr>
<td>Canberra University College Public Subscription Fund</td>
<td>36</td>
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<tr>
<td>John Deans Prize Fund</td>
<td>160</td>
<td>160</td>
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<tr>
<td>Lady Isaacs’ Prize Fund</td>
<td>248</td>
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<td></td>
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<tr>
<td>Robert Ewing Prize Fund</td>
<td>456</td>
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<tr>
<td>Andrew Watson Prize Fund</td>
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<tr>
<td>Sir George Knowles Prize Fund</td>
<td>420</td>
<td>420</td>
<td></td>
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</tr>
<tr>
<td>W. J. Lind Prize Fund</td>
<td>100</td>
<td>100</td>
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</tr>
<tr>
<td>Alliance Francaise Prize Fund</td>
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<td>200</td>
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<tr>
<td>Tillyard Prize Fund</td>
<td>420</td>
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<tr>
<td>J. B. Chifley Memorial Prize Fund</td>
<td>700</td>
<td>700</td>
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<tr>
<td>Rachel Dorph Memorial Prize Fund</td>
<td>200</td>
<td>200</td>
<td></td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td>815,450</td>
<td></td>
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<td>809,018</td>
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<tr>
<td>Loans from Vice-Chancellor's Discretionary Fund</td>
<td></td>
<td></td>
<td></td>
<td>8,234</td>
</tr>
<tr>
<td>Cash at Bank—Commonwealth Savings Bank of Australia—$2</td>
<td></td>
<td></td>
<td></td>
<td>104,345</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
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<td></td>
<td>921,597</td>
</tr>
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**BY AUTHORITY: A. J. ARTHUR, COMMONWEALTH GOVERNMENT PRINTER, CANBERRA**

*Printed in Australia*