The Australian National University
1975 Report
The Australian National University

Report of the Council for the period
1 January 1975 to 31 December 1975
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The *Australian National University Act* 1946–1975 determines that ‘the functions of the University shall include the following:
(a) to encourage, and provide facilities for, postgraduate research and study, both generally and in relation to subjects of national importance to Australia;
(b) to provide facilities for university education for persons who elect to avail themselves of those facilities and are eligible to do so; and
(c) subject to the Statutes, to award and confer degrees and diplomas.’

In a report of this size it is not possible to give a full account of all the activities of the University in the year under review. This report comprises three sections:
(1) the Vice-Chancellor’s review of significant trends together with summaries by senior academic members of work in progress, and of a selection of developments of particular interest, in the Research Schools, Faculties, Centres and Units;
(2) lists of academic publications, which give a fuller indication of the range of research activities in the University; and
(3) tabulated information, statistics, and financial statements.

For those Members of Parliament—and members of the public—who would be interested to have more detailed information on the work of one or more of the Research Schools, Faculties, Centres or Units, the Registrar would be glad to supply on request copies of any of the detailed reports which all sections of the University submit annually to the University Council, or the *Calendar* which, in addition to general information about the University, contains a full list of the academic staff.

The address for such inquiries is:
The Registrar
The Australian National University
PO Box 4
Canberra ACT 2600
The Australian National University
Report of the Council for the Period
1 January 1975 to 31 December 1975


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 1975 to 31 December 1975 furnished in compliance with Section 33 of the Australian National University Act 1946-1975.

J. G. Crawford

Chancellor
Vice-Chancellor's Report

On 9 May 1975, Professor D. A. Low, FAHA, FASSA, formerly Director of the Research School of Pacific Studies, was appointed Vice-Chancellor of the University for seven years.

The University's academic standing—
a personal analysis

Perhaps an incoming Vice-Chancellor may affirm a truth which it might be thought inappropriate for him to assert after having held office a little longer. Of all the innumerable new universities which have been created across the world since the Second World War, none has now, in that relatively short time, a greater reputation for the quality of its scientific and scholarly work than the ANU. It has secured a place amongst the most distinguished of the world's universities (most of whom had their origins several centuries ago) of which Australia may be proud.

Not everyone would choose to illustrate this by referring to the membership of learned academies. Nevertheless in aggregate their lists provide some guide. They can moreover be readily analysed.

It has been common in recent years for the Presidents of two of the three Australian Academies to be from the ANU. In 1975 Professor John Passmore was President of the Australian Academy of the Humanities, while Professor Geoffrey Sawer was President of the Academy of the Social Sciences of Australia: he has now been succeeded by Professor F. H. Gruen. Forty-six Fellows of the latter Academy now come from the ANU, more than twice as many as from any other university. Thirty Fellows of the Academy of the Humanities and 36 Fellows of the Academy of Science also belong to the ANU, while nine members of the ANU are Fellows of two Academies—as many indeed as from all other universities combined. These include members of the academic staff of the School of General Studies as well as of the Institute of Advanced Studies. There are only four other universities which have more Fellows of the Academy of the Social Sciences than the School.

At the same time it is noteworthy that all three of those who, besides Sir Owen Dixon, have worked in Australia whilst they have been Fellows or Corresponding Fellows of the British Academy, have been ANU men; while of the Fellows of the (British) Royal Society not only are there more than three times as many from the ANU as from any other university outside the United Kingdom, with the one exception of Toronto which has just over half the ANU number: of the 46 universities in Britain itself only seven have more Fellows of the Royal Society than the ANU.

Added in 1975 to those of our number with such distinctions were Professor Passmore, who was elected a Corresponding Fellow of the British Academy, and Professors P. A. Moran and R. O. Slatyer, who were elected Fellows of the Royal
Society. Moreover, four of the six members of the academic staffs of Australian universities who are Foreign Associates of the United States Academy of Sciences come from the ANU.

None of this provides any grounds for complacency. There are soft corners in any great institution, and as a former Director of a Research School I am in no way oblivious to them. Nevertheless, it is proper to allow that the considerable resources and advantages which the ANU has enjoyed during its first quarter of a century have resulted in a whole series of achievements which in the judgment of the peers of its leading scholars and scientists, both at home and abroad, have been very distinguished. It can be said too—though the details should perhaps be left to another occasion—that there is plenty of evidence that its graduates have contributed in highly significant ways to developments in various parts of Australia to a degree that may not always have been appreciated.

1975—a hinge year
In retrospect the outstanding feature of 1975 was that it was a hinge year. This was dramatised by the fluctuations in the budgetary forecasts in the middle of the year for the triennium due to begin on 1 January 1976. The University had made a carefully considered submission to the Universities Commission for this. It had not asked for any major new development. It was chiefly concerned to secure funds for a steady development to ceilings already agreed with the Commission for both the Institute of Advanced Studies and the School of General Studies. In its Sixth Report, which was published during the year, the Commission declared that its recommendations for the then anticipated 1976-78 triennium had been influenced ‘by the need for restraint in the current economic climate’. This commendably responsible approach was, however, insufficiently allowed for in the ensuing Budget discussions and, in the event, despite helpful supplementation in respect of inflation, the University sustained a cut in its allocation which was close to three times as large as it had ever suffered before. In the upshot this entailed an especially severe cut in the funds available for research equipment.

Postponed triennium
The most serious aspect of the Government’s actions lay, however, in its decision to postpone the advent of the new triennium from the beginning of 1976, until the beginning of 1977. This involved an unprecedented and unpremeditated interruption in the manner in which the affairs of the universities have been so successfully conducted in the nearly two decades since the Murray Commission, and was not only made far too lightly, but without adequate consultation with representatives of those primarily concerned.

The Budget decisions stemmed from the critical financial situation that confronted the Government in mid-1975. From the consequences of this, the ANU no more expected to be immune than other substantial beneficiaries of public monies. The response of the University community to the situation was indeed thoroughly responsible. It would be easy to specify the many new and carefully-planned developments which had to be abruptly curtailed, as well as some of the sharp cutbacks in
flourishing older enterprises. It gives me considerable pleasure to record my appreciation of the calm and dispassionate atmosphere which prevailed within the University whilst the necessary cuts were being made. I have in mind as one example among the many helpful suggestions which were made those from the President of the Students’ Association.

**A new era**

All this was very heartening since this budgetary problem simply symbolised the much larger fact that this University, along with other universities in this country and elsewhere, is entering a new era in which good sense will be called for much more widely. Over the past two decades or so the ANU like so many other universities, old as well as new, has seen very considerable expansion in the size of its operations and in the numbers of its staff and students. (It should perhaps be emphasised that since the early 1960s there has not been an increase in the real cost-per-student; on the contrary, there has been a significant decline.) There are still targets agreed with the Universities Commission for the size of all our Research Schools (that are warranted by the need to create the appropriate critical mass) which have not been reached. In its Sixth Report the Universities Commission has itself suggested that the School of General Studies should eventually take 1000 more students than had previously been planned. It is legitimate therefore to expect still further growth in the University’s size beyond its present position. But clearly this will now come more slowly than was imagined even quite recently, and aside from a small handful of quite new developments that may perhaps be feasible if a sudden, favourable opportunity occurs, the overall size and composition of the University is probably now close to that with which we shall be living in the foreseeable future. This situation calls for new kinds of thinking about the way the University should operate, since the existing patterns cannot be bypassed when new ideas are advanced. They have to be confronted directly.

**Continuing reviews**

In these terms perhaps the most significant single step taken in the University during 1975 was the decision by the Board of the School of General Studies to establish a wide-ranging General Policy Committee upon the lines of the General Policy Committee so promisingly established earlier by the Board of the Institute of Advanced Studies. In this the unquestionable is being questioned. And this is true elsewhere too. Throughout the University there are now procedures for reviews of departments upon the vacancy of a Chair. There were two reviews of this kind in 1975 in the School of General Studies—for Psychology and Botany. The Board of the School also agreed to institute departmental reviews every 10 years, if there should be no such vacancy during that time. In the Institute a variety of ad hoc reviews were instituted during 1975 in three of the Research Schools. It is at once healthy and gratifying that so many parts of the University should have taken the initiative in this matter without direct outside prompting.

**Changes and unresolved issues**

Alongside these developments the changes which have stemmed from the disputes in the School of General Studies in 1974 have begun to be built into the University’s
regular operations during 1975. There remain points of disagreement—over the composition of departmental committees for example—and a conference in September explored some of the unresolved issues relating to assessment. This was organised by the Office for Research in Academic Methods, which was eventually established during the year to facilitate in particular the properly unending search for worthwhile improvements in undergraduate learning and teaching. This has a high place on the School's agenda. The implications of it for such issues as our relationships with secondary schools at one end, to our arrangements for postgraduate training and staff research in the School at the other, will have to be carefully followed through. On these matters the ANU has the responsibility to take a lead, since it is blessed with a great many advantages and does not have so many of the problems of the big city universities.

**Senior officers**

There were a number of significant changes amongst the senior officers of the University during the course of the year. Emeritus Professor Sir John Crawford, CBE, FASSA, was elected to succeed Dr H. C. Coombs, AC, FAHA, FASSA, FAA, whose long and uniquely distinguished service to the University as Chancellor will finally end in 1976. Council was most sorry to receive the resignation of Sir Anthony Mason, KBE, as Pro-Chancellor, but was delighted to be able to elect Mr Justice Blackburn, OBE, in his place. During the interim following the departure in January of my predecessor as Vice-Chancellor, Dr R. M. Williams, CBE, whom the University was most sorry to lose to the Chairmanship of the New Zealand State Services Commission, Professor D. N. F. Dunbar, Deputy Vice-Chancellor, became Acting Vice-Chancellor. The University is greatly indebted to him for assuming the necessary additional responsibilities during that time. It is indebted too to Professor Geoffrey Sawer and Professor Ian Ross, FAA, for their invaluable services as Pro-Vice-Chancellors during the course of a major transition. This was particularly marked since, to the great regret of so many in the University, Mr R. A. Höhnen, OBE, the Secretary, and the chief pillar in the University's business since the inception of the ANU, was obliged under doctor's orders to retire early in the year, thus bringing to an end what in retrospect will be called the Höhnen decades. The University was singularly fortunate to be able to appoint to the new office of Assistant Vice-Chancellor that was created in the course of some consequential administrative rearrangements, Mr Colin Plowman, Registrar of the University of New South Wales, and formerly Academic Registrar of the ANU. Early in the year the University was glad to welcome the new Bursar, Mr John Coleman, and it was delighted to be able to appoint Professor Wang Gungwu, FAHA, as Director of the Research School of Pacific Studies.
Dean of Students Report

Professor R. St C. Johnson has been elected Deputy Chairman of the Board of the School of General Studies for 1976–77. He reports on his last year as Dean of Students.

New decision-making machinery
The year 1975 saw no repetition of those disturbances by which in 1974 the student leaders had attempted to pursue certain educational goals. The goals have not been abandoned; they are, however, being pursued through new structures. A system of departmental committees, on which students have substantial representation, has been set up throughout those departments concerned with undergraduate teaching; in addition, students have now been added to the membership of the Board of the School of General Studies. This new machinery for academic decision-making enables the students and their supporters to pursue their objectives in a manner that does not lead to disruption of the normal functioning of the University.

Student accommodation
The main issue in 1975 was the question of student accommodation. At the beginning of each year there is something of a crisis in this area, because this University attracts a large number of students from outside Canberra, and most of the accommodation available to them is in halls of residence and colleges which inflationary pressures have forced to raise their fees to very high levels. There is a considerable demand for low-cost accommodation, and this demand is likely to grow. Furthermore, amongst students all around Australia there has been a trend away from collegiate accommodation towards the more informal and less expensive situation where a small group rents a suburban house. Even this has been difficult to achieve in Canberra's tight rental market in 1975. In consequence, the University has temporarily allocated some of its suburban housing stock for student occupancy. This housing stock was acquired primarily to accommodate the very large number of medium-term visitors and temporary staff and graduate students whom this University has at any one time, and the University does not intend to jeopardise those programs by unduly diminishing the stock of housing available to maintain them. Nevertheless, it has been possible to use a small proportion of this stock for student accommodation, and this has been a most valuable assistance to students in need. The definition of this problem and the determination of principles and procedures by which the allocations might be made, occupied a great deal of the time of the Dean of Students this year.

New admission requirements
The Dean of Students is also concerned with the Counselling Centre and Health Service (which have each submitted their own report) and, as Chairman of the Admissions Committee, with developing policy on admission to the University when the new system
of secondary education in Canberra becomes effective from 1976. From 1977 onwards, there will be no public examinations for school children in the ACT. Each secondary school or college will have a great deal of autonomy in deciding its own curriculum and the syllabus for each subject it teaches. In this situation, the University has had to redefine its admission requirements, and to establish procedures to determine the adequacy of secondary courses as a preparation for tertiary studies. That this has been achieved within a few months is tribute to the goodwill and co-operation that exists between the secondary and tertiary institutions in Canberra.

**Student welfare**

Other innovations in 1975 will have considerable impact on the welfare of students. The establishment of the Office for Research in Academic Methods and the Instructional Resources Unit should contribute to the improvement of teaching in the University in ways which cannot but be of benefit to the students. In the field of child care, the Pro-Vice-Chancellor (Professor Ross) produced a report which will ensure the provision of adequate child care in the University on consistent and practical policies. Students under intense but short-term stresses will find a refuge in the Stress Cottage which the University has made available in Balmain Crescent, with the co-operation of the Health Service. None of these were initiatives of the Dean of Students, and they are only on the fringes of his area of responsibility; however, it seems appropriate to mention them in this report, since they will each contribute importantly to the well-being of students.
Research Schools

Research School of Biological Sciences

Understanding the biological environment
The main aim of this School is to advance biological knowledge, especially in some of the fast-advancing fields of biological research. The School works on a wide variety of problems concerned with living things at all levels ranging from the viruses, the smallest living organisms, through to the higher organisms including man himself. The relations between plants and animals in communities are also subjects for investigation. Though the main aim is understanding biological principles, possible practical applications are not neglected. In the long term this is the knowledge we need for understanding the whole environment and man himself.

Though the organisation of the School depends on a departmental structure, constant efforts are made to stimulate and encourage interdisciplinary investigations. Principles in biology can often be established by working on the most suitable organism for experiments and then seeing how far the principles apply to other plants or animals. Thus many principles of genetic control, established with bacteria, can enlighten our understanding of genetics in organisms like man on whom experiments must of necessity be very limited. It is interesting to note that the Department of Population Biology, which works mostly on the dynamics and genetics of insect populations, can now embark on a study of the inheritance of susceptibility to certain diseases in man by analysis of (anonymous) medical records of a large number of people in Sydney.

Interactions of living things
A wide range of problems is being investigated in the Department of Environmental Biology which is concerned with the ways living things interact with their environment and with each other. Since all organisms depend ultimately on the process of photosynthesis, investigation of the biochemical reactions involved in the green plant is being pursued with vigour. This process differs in different plants and work in this Department has already added much to our knowledge of how the process in plants is adapted to different environments, for example tropical and temperate climates. Plants also show a wide range of adaptation in their ability to cope with dry conditions. The normal dry air causes water loss from the leaves by evaporation since the pores in the leaf must be open for part of every day to allow intake of carbondioxide for photosynthesis. These pores, known as stomata, exercise subtle controls and their mechanisms, not yet understood, are being investigated.

The same Department is working on community ecology, extending from the physiological ecology of individual species of plants to the characteristics of the whole ecosystem. Such things as the relation between plants and herbivores, prey and predators and competition between organisms are all being investigated. The different environments in which such work is done include natural and artificial fresh water lakes, coral reefs, eucalypt forest and arid zone woodland.
The vertebrate brain
The Department of Behavioural Biology, which is now established at about half its ultimate strength, aims to find out how far animal and human behaviour can be understood in terms of current knowledge of the anatomy, physiology and biochemistry of the vertebrate brain. This involves research in the disciplines that contribute to the neurological sciences, so the Department has a section on developmental neuroanatomy and neurophysiology and another on neurochemistry. Much of their work has been concerned with that frustrating void in knowledge, the mechanism of memory. They have discovered that a class of biochemical inhibitors which block a specific process in brain cells, namely, the traffic in sodium and potassium in those cells, can block short-term memory in animals—fish, chickens and man.

Sensory mechanisms
Another department concerned with problems of neuroanatomy and neurophysiology is the Department of Neurobiology, which is working on problems of vision and hearing, particularly in the insects and crustaceans. The nerve systems in these organisms, connecting their sensory organs to the brain, are important in helping us to understand the mechanisms involved throughout the animal world. Equally important is the work on how eyes capture light to form images, one of the most remarkable phenomena in nature. In this work the Department enjoys close co-operation with the Department of Applied Mathematics, Research School of Physical Sciences, with several joint appointees engaged in the collaboration.

Genetic mechanisms
The way in which work on a variety of organisms can help our general understanding is well illustrated by the Department of Genetics, which works on bacteria, on unicellular algae, yeast, a slime mould and fungi. At the other end of the biological scale, the genetic mechanism of a wallaby is being investigated. Some of the problems can have very considerable practical importance in the long run, when our understanding is sufficient. Nitrogen, for instance, is brought from the air into the soil by bacteria through a mechanism not yet sufficiently understood but subject to investigation by genetic techniques. Work on cellular genetics of plants with sophisticated tissue culture techniques is opening up new possibilities for control of the characteristics of the plants.

Cellular mechanisms
The Department of Developmental Biology has a very strong group working on the fine structure of plant cells, using the first-rate electron microscope facilities of the School. Some of this work is essential to our understanding of how substances are passed from one part of the plant to another. The electron microscope has also aided in distinguishing between closely related species, for example *Eucalyptus*, adding an important method to our techniques for classification and for determining relationships. The Department is also investigating the blue-pigment, phytochrome, in plants which can initiate marked changes in the behaviour and development of plants by its response to small amounts of light.
Molecular mechanisms

The average layman has some difficulty in understanding what is done in a research group on molecular biology. In the Molecular Biology Unit, an attempt is made to understand the mechanism of protein synthesis, which starts with a supply of genetic message, a 'blueprint' for the protein to be synthesised. This blueprint is produced in the nucleus to control the protein synthesis in the other parts of the cell, but a number of steps are involved and the aim is to understand the chemical reactions involved; new techniques have been developed to investigate these genetic messages.

Other kinds of investigation are going on in the smaller units and groups; how energy is distributed within living organisms (Bioenergetics Unit); the variation in plants which require classification (Taxonomy Unit); the evolution of a particular enzyme, a complex protein catalyst occurring in different organisms (Protein Biochemistry Unit); and the relations of the various viruses in Australia to their hosts, plant or animal (Virus Ecology Group).

School relations

In a short summary of the work of the School, it is difficult to convey the exciting atmosphere in which advances in much of our knowledge are made. These research programs form the basis of the work of some 65 academic staff and 50 research scholars, with a total supporting staff, technical and administrative of 160. It is an atmosphere in which the younger people in the School receive experience in doing research alongside those who are established scientists, while the support staff plays a key role in making it all work as efficiently as possible. Its success has to be judged by the way in which leading scientists in the different fields, both in Australia and in other countries, receive the work and whether they seek our graduates and postdoctoral workers. A steady stream of work is being published in the world’s leading scientific journals, our graduates do not find difficulty in being placed in other institutions, and a constant supply of visitors from around the world—USA, UK, USSR, Israel, Japan, Holland, Finland, Germany, to mention a few countries—suggests that the atmosphere is one in which scientific research can flourish.

There is much collaboration with other bodies, particularly CSIRO Divisions in Canberra and Melbourne, and with some of the universities elsewhere in Australia. The School has continued to arrange for overseas visitors to go to centres in other places where their knowledge will be valued, and for workers from other universities to come here to use the School’s resources and collaborate with its staff.

Research School of Chemistry

Conference and lecture activities

Many members of the School took part in conferences and academic activities in Australia and abroad and a number of academic awards and distinctions were received. At the end of the year there were 68 academic staff and 11 graduate students.

The School entertained 30 distinguished visitors during the year, most of whom gave one or more lectures. A series of lectures 'Chemistry and the Community' had distinguished speakers from government, CSIRO and universities: its aim was to broaden
the appreciation by members of the School of the opportunities available to contribute to society outside the traditional research areas. A UNESCO Conference, aimed to set up a Natural Products Network in South-East Asia, was attended by 14 delegates from South-East Asian countries and a number of Australians, and was chaired by Professor A. J. Birch, FAA, FRS.

Twelve members of the School assisted with teaching courses in the Department of Chemistry, Faculty of Science. The operation was organised in the Faculty of Science by Dr J. M. Webb, at present on leave from the School. This very successful arrangement, to be continued in 1976, permitted some new experiments in teaching methods. Considerable enthusiasm has been expressed by all participants, including the students.

Among diverse areas which might be highlighted to show the philosophies of the School's approach to research are the following topics:

**Chemicals from micro-organisms**

The commercial growth of micro-organisms under controlled conditions is now used to produce substances ranging from antibiotics to specific useful chemicals. One research area in organic chemistry focuses on biologically active compounds from such microbial sources. Work in this area requires not only good separation and spectroscopic facilities on the chemical side, but also extensive interaction with microbiologists and the pharmaceutical industry to adequately pursue the biological aspects.

Chemical and spectroscopic studies by Mr R. W. Rickards and his group have defined the three-dimensional molecular structure of a compound, named 9-methylstreptimidone, isolated from a species of streptomycete, with high activity against fungi, yeasts, and viruses. This compound is related to cycloheximide, a fungicide which has agricultural uses, but it is probably too unstable and toxic to find similar applications. 9-methylstreptimidone has some unusual structural features, and radioactive isotopes have been used to study how the parent micro-organism forms this compound from components of the nutrient medium in which it is growing. A second compound whose structure has been resolved comes from a fungus, and has antiprotozoal and cytotoxic activity. It is produced together with several closely related compounds whose biological activities will also be tested.

Another very complex compound isolated from a streptomycete is of considerable interest since it appears related to the clinically important group of ansamycin antibiotics.

The structural knowledge obtained in this work contributes to our understanding of what molecular features confer different types of biological activity upon a compound, and how such activity is exerted by that compound on living organisms. This knowledge may also permit an interesting compound, initially discovered and known only as a product of the metabolism of a micro-organism, to be prepared more readily by laboratory synthesis for further study or application.

**Chemical reactions activated by light**

Research in photochemistry, long neglected, has now become an area of intense interest throughout the world for a variety of reasons, particularly that light can produce activations of molecules in very specific ways. Its study in Australia is
appropriate, although the present work is aimed to elucidate basic mechanisms without immediate applied aims in view.

In relation to this research area, members of the Physical and Theoretical group, notably Dr J. Ferguson and his collaborators, are studying the mechanisms of chemical reactions of molecules excited by light energy. The nature of chemical reactions involving molecules in their unexcited or electronic ground state is now reasonably well understood, but the same cannot be said of reactions involving electronically excited molecules.

Photochemical studies can be made in the gaseous, liquid or solid phases under a variety of experimental conditions. However, it is only in the solid phase that firm control can be exercised over the relative positions of the reacting molecules. This control is essential for the development of detailed theoretical models of photochemical reactivity.

The experimental difficulties encountered in this type of work are considerable. For instance, single crystals often as small as one-tenth of a millimetre are used at temperatures from as low as that of liquid helium at about —268°C to above room temperature. In order to carry out a range of solid state photochemical studies, special equipment has been designed and built in the School. Using this equipment molecules can be excited with one wavelength of light (energy) and the products of reaction examined; the molecules can then be submitted to light of another wavelength.

A particular example of the use of the technique concerns the flat aromatic hydrocarbon anthracene and its reaction to form dianthracene from a pair of molecules. This reaction is reversible, by the action of heat or by irradiation with ultraviolet light. Similar studies have been extended to a variety of related molecules involved in similar reversible reactions. A clear picture of the process is now emerging, including the influence of thermal energy on photochemical reactions.

**Chemistry of rare metals**

Organometallic compounds have always played a key role in the development of chemistry, and organometallic reagents based mainly on main group elements such as magnesium and lithium have been (and still are) widely used in organic synthesis. In the last twenty years or so, there have been enormous developments in the organic chemistry of the transition elements, forming a bridge between organic chemistry on the one hand and co-ordination chemistry on the other. This has led, *inter alia*, to a number of important petrochemically-based industrial processes and has brought together the fields of homogeneous and heterogeneous catalysis.

Dr M. A. Bennett and his group have designed ligand molecules containing an olefin and a phosphorus atom with ruthenium, rhodium and iridium. The products are models for the intermediates proposed in the dimerisation of simple olefins, such as ethylene, catalysed by salts of these metals. These are related to important industrial processes.

Also studied have been the cleavages of normally rather unreactive carbon-hydrogen bonds when they are forced into proximity with a metal atom, such as nickel, palladium or iridium, in a metal complex.

Another area of interest is the stabilisation by co-ordination to a transition metal, of highly strained and therefore unstable organic molecules, such as small-ring
acetylenes. Some of the resulting compounds have interesting catalytic properties, for example cyclohexyne platinum complexes catalyse the addition of water to certain unsaturated functions.

Transition metal complexes of tertiary phosphines are very important components of recently discovered synthetic catalysts, and a detailed study is being undertaken, using electrochemical and physical techniques, to discover how the bonding alters when the transition element is changed. Work of this kind may lead to predictability of catalytic effects.

In the present Australian situation, with a large mining industry and with the availability of natural gas, any basic work on this interface can be considered relevant. The training of experts to take rapid advantage of future developments is an essential feature of the program.

Copper refining
The University has transferred to Murdoch University the copper extraction and refining work which was begun in this School by Professor A. J. Parker before his appointment as Director of the Mineral Chemistry Research Unit at that University. His copper project has now reached the stage of commercial exploitation with the completion of an agreement with Air Products and Chemicals Inc. (USA).

Research School of Earth Sciences

Understanding the Earth-shaping processes
The University's contributions to earth sciences have long been characterised by the application of new physical, chemical or mathematical techniques to problems in geology. In some cases the contributions have involved measurements on rocks collected from diverse places, including the Moon. In others new equipment has been used to make observations in difficult areas, for example in using portable seismograph stations to make observations in the Northern Territory or Papua New Guinea. In other cases the contribution has been to carry out experiments in the laboratory in which the conditions of pressure and temperature existing at depths of hundreds of kilometres below the surface of the Earth are simulated. It is expected that this philosophy will carry over into the new fields of interest being developed within the School. All of these experiments have another common factor, namely that they have a bearing on the fundamental problem of the earth sciences on understanding of the Earth-shaping processes.

New fields of interest
During 1975 the School took the first steps towards the expansion of the fields of interest of the School recommended by the Advisory Committee to Council on 8 September 1972 with the appointment of Dr L. B. Gustafson as Professor of Economic Geology, and Dr J. S. Turner as Professor of Geophysical Fluid Dynamics. The Economic Geology program has as its goal an understanding of the genesis of ores and its efforts will initially be concentrated on the ores in the older rocks of Australia. The initial program of the Geophysical Fluid Dynamics group will be a series of model experiments in the laboratory directed at understanding of mixing processes in fluids.
This experimental program will relate to understanding the development of layering in the ocean and the atmosphere. It is expected that the Geophysical Fluid Dynamics program will also be concerned with theoretical problems including problems of numerical modelling of processes in the atmospheres of the Earth and planets and in the interior of these bodies.

Properties of the interior of the Earth
Some of the early work on the transformation of minerals to denser states was done at this University by Professor A. E. Ringwood, FAA, FRS. At that time it was not possible to make measurements at the pressures and temperatures of the minerals which make up the outer parts of the Earth. In consequence, the experimental work was done on analogous compounds in which the phase transformations occurred at lower pressures. During the past two years, the School has obtained equipment in which the minerals can be squeezed to pressures of the order of two to three hundred thousand atmospheres. It has now become possible to make measurements on the actual minerals which are common in the upper mantle of the Earth, and interesting results have been obtained. Samples of these denser phases have been made using other techniques and a very extensive series of measurements of the elastic properties of these materials has been made, in some cases with surprising results.

Interpreting seismic data
These measurements of the properties of minerals at high pressures are related to the interpretation of the seismic wave velocities found within the Earth. It is as necessary to refine and improve the seismic data relating to the changes in velocity and density within the Earth. During the year a very extensive series of observations of seismic waves from earthquakes from the Banda Sea, and other source regions to the north of Australia was made in the Northern Territory.

During 1975 a monitor station near the new dam site at Dartmouth was added to the seismic telemetry network in South-East Australia.

Rock deformations
Many of the rocks found at the Earth’s surface show abundant evidence of having been deformed. There has been some difficulty in relating laboratory experiments on the deformations observed in the field because of the very different time scales of the processes involved. However, some experiments in the School’s rock deformation laboratory made during the past year show considerable promise of achieving consistency between the parameters of the deformations estimated in the field and those found in the laboratory.

Co-operative activities
The co-operative activities of the School with the Bureau of Mineral Resources and other bodies continued throughout the year. More than 32 users from 14 Australian universities made use of the analytical facility provided by the electron microprobe unit of the School.
John Curtin School of Medical Research

**Fundamental research and medical progress**

Although the social aspects of medical care are important for the well-being of the community, fundamental research in the medical sciences is essential to long-term progress in medicine. The School was established to meet the need in Australia for a broadly-based School of Medical Research in which creative researchers from a wide spectrum of disciplines could work in close association. In 1975 the work of the School continued to embrace all levels of biomedical research from the interaction of molecules to the organisation and function of cells, of tissues and of man as a whole, and the behaviour of populations. Expertise in the basic disciplines of the natural sciences is, therefore, essential in our endeavour to unravel the very complex processes which prevail in health and which deviate somewhat from normal in disease. Nothing could be more complex than the regulation of the numerous mechanisms so essential for a healthy individual and society.

**Main directions of the School’s work**

Although fundamental research in biophysics, biochemistry and genetics forms an essential part of its work, the School in general is concerned with the mechanisms involved in several human disorders of importance to our society. Among these are—

(i) Disorders caused by viruses such as encephalitis, influenza, and some forms of cancer. The properties of the causative virus in each case are being studied with a view to controlling the spread of the virus by insects and birds as in Murray Valley Encephalitis or to producing an effective vaccine as in influenza.

(ii) Development of immunity is one of the main defence mechanisms of the body to infectious diseases. Investigations of the nature of the immune response such as the properties of antigens and the mechanisms whereby certain cells recognise these antigens as foreign are being carried out.

(iii) Organ transplantation, especially of the kidney, is being extensively used in medical practice but when an organ from another individual is transplanted it is recognised as being foreign and ultimately rejected. The mechanisms concerned in the recognition of a tissue as foreign are basic to the successful transplantation of organs from one individual to another. Experiments on these basic mechanisms concerned in the rejection of kidney transplants are being studied.

(iv) Congenital and neonatal disorders are in general ill-understood. Work is proceeding on the development of the immune system in foetal life and on the effects of hormones on foetal growth; this should lead to a better understanding of foetal and neonatal mortality and morbidity.

(v) Mental health presents difficult problems in most communities. These disorders concern the organisation and function of the central nervous system. The School’s work in this field is related to one of the special senses, the eye, and to the identification of certain transmitter substances in the brain. These studies are especially concerned with the growth and development of the visual system and with the development of specific therapeutic measures for certain neurological and psychiatric disorders.
One of the main causes of death and morbidity in our community is coronary heart disease. This disorder is being tackled from several approaches as it seems that there are several contributory factors; for example, the effects of drugs that lower blood cholesterol, the causes and management of obesity, the mechanisms leading to thrombosis and the interrelationship of diabetes and hypertension with coronary heart disease:

Other debilitating disorders such as the muscular dystrophies and the various types of arthritis are being studied. In arthritis the action of anti-inflammatory compounds and drugs is being investigated.

In the field of nutrition, dietary factors concerned with obesity, thrombosis and coronary heart disease are being studied. Of considerable importance to the community are the studies on various aspects of the effects of polyunsaturated fats; for example, the consumption of polyunsaturated beef and the possible relationship between polyunsaturated dietary fats and the incidence of cancer. Other studies concern the effect of maternal nutrition on the health of the infant.

The interaction between biological and cultural processes is being investigated in various human populations. A major field study in Hong Kong is evaluating the effect of various environmental factors in a high density settlement on disease patterns. Studies in human genetics are closely concerned with the susceptibility to disease, for example in our Aboriginal population, and in the incidence of certain types of cancer in various human populations.

One of the most widespread disorders of health concerns the infestation of man with parasites. The development of immunity in some of these conditions is being studied.

Composition of the School
The academic staff, including postdoctoral fellows, was maintained during the year at about 90. Of these about half had tenure. In addition there were 25 visiting fellows, 15 from overseas and 10 from other Australian universities, who worked in the School for a period of 3 to 12 months. One of the aims of the School is to enable colleagues from other Australian universities to share its facilities as visiting fellows during periods of study leave. The figures given show that this aim is to some extent being achieved.

Besides the training program for postdoctoral fellows, the number of scholars enrolled for the degree of Doctor of Philosophy (PhD) was about the same as last year. At the end of the year there were 54 scholars of whom just over 60% came from Australia and the remainder from several overseas countries.

In a School with such a wide multidisciplinary base, the number of medically qualified staff and scholars is relatively low. Only 15% of the academic staff, 10% of the scholars and 12% of the visiting fellows have medical qualifications. Of the present scholars only one out of a total of 34 from Australia is medically qualified. In a school of medical research it is desirable to have a reasonable proportion of researchers with a medical background. It has always, however, been difficult to recruit medical graduates into research in the basic sciences of medicine and this trend is continuing to worsen.
The considerable turnover of scientists with short-term tenure helps to bring into the School new ideas and approaches to problems. Whereas about 170 scientists, including visiting fellows and scholars, worked in the School during the year, of these only about 47 were tenured. To maintain an active research program in 10 departments with a total of 170 participating scientists it would be difficult to reduce the number of tenured staff below this level. In addition to those actively engaged in research, there were numerous short-term visitors to the School, most of whom gave lectures or seminars.

**Other activities of special interest**

Members of the staff have taken part in a wide variety of national and international activities and have participated in many conferences, including the following: Professor G. L. Ada, FAA, was elected Chairman of the Scientific Council of the International Agency for Research on Cancer; Professor D. R. Curtis, FAA, FRS, served as a member of a ‘task force’ to advise the Australian Science and Technology Council (ASTEC) on the role of health science in Australia and as a Vice-President of the Australian Academy of Science; Professor F. W. E. Gibson, FAA, gave the S. D. Rubbo Memorial Oration to the Australian Society for Microbiology; Professor P. O. Bishop, FAA, gave the oration at the opening of the laboratories of the National Vision Research Institute of Australia and served as a member of the Council of the International Union of Physiological Sciences; Mr L. M. Davies visited Indonesia at the invitation of the Australian Development Assistance Agency to advise the Indonesian Department of Agriculture on technical aspects of laboratory management.

During the year two courses of lectures were held in the School in addition to the many seminars and individual lectures. The topic of the first series of eight lectures was ‘Relevance of basic research within the School to clinical medicine and animal health’; these lectures were all given by members of the School. The second course of ten lectures was in the field of genetics and the lecturers were mainly drawn from laboratories outside the School.

With the development of the Departments of Immunology and Pharmacology some difficulties continued to be encountered in the Animal Breeding Establishment (ABE). The Specific Pathogen Free (SPF) animal house for the breeding of high quality experimental rats and mice is now supplying most of the requirements for these animals and is functioning well. The extensions to the ABE which were approved by the Universities Commission in its Sixth Report and which are essential for the work in immunology and pharmacology will not now be built in 1976, but it is hoped that building will commence early in 1977.

A very welcome guest to the School in the early part of the year was Lady Florey, widow of the late Lord Florey. Other visitors included a medical delegation from the People’s Republic of China, Dr Tung Mien-kuo, Professor Cheng Lin-fan, Dr Shih Chang-hsi, Dr Liu Chung-pai and Dr Chen Shao-hsien; a medical delegation from the Union of Soviet Socialist Republics (USSR), Professor G. C. Bakhtadze, Dr P. Norkunas and Dr V. Vaskelis; Dr M. Cummings, Director of the National Library of Medicine in Washington; Professor H. Miller, Vice-Chancellor of the University of Newcastle-upon-Tyne, and Professor W. I. Beveridge of the University of Cambridge.
Research School of Pacific Studies

The School started the year by losing its relatively new Director, Professor D. A. Low, on his appointment as Vice-Chancellor of the University. The School's former Director, Professor O. H. K. Spate, FAHA, FASSA, stepped in as Acting Director from June to September. The incoming Director, Professor Wang Gungwu, was Acting Director for two months before he was appointed on 14 November.

New developments
During the year the School continued to produce a wide range of research studies on Australia and the South Pacific and the three major regions of Asia (East, South-East and South). In addition to the doctoral students it usually takes, and the students from Asia and the Pacific it trains in Agricultural Development Economics, the School took its first Master of Arts students for special training in international relations and strategic studies. A further change, following the appointment of Mr R. V. Cole as the Administrative Secretary of the new Development Studies Centre, has been the attachment of the Master of Agricultural Development Economics course to the Centre. As this course is supported by the Australian Development Assistance Agency, it is hoped that this is but the first step in ensuring effective co-operation with the development interests of the Commonwealth Government. The Centre also had a most encouraging start when it hosted a conference of the Asian Association of Development Research and Training Institutes in August.

Another most satisfactory change of responsibility was the transfer of the School's very productive New Guinea Research Unit (NGRU) to the new Institute of Applied Economic and Social Research established by the Papua New Guinea Government. For the first year the Institute will be headed by NGRU's Field Director, Dr R. J. May, and staffed by members of NGRU and this should help future School relations with the Institute.

Three other developments deserve special mention. With Professor Low's appointment as Vice-Chancellor, part of the Director's Section has been made into the nucleus of a South Asian History Section and the Vice-Chancellor continues to act as its head. Despite its being a small and new section, it has had a vigorous start and now has three students in the field doing their research in India. The second concerns the Department of Political and Social Change: although it did not get off the ground largely because of the financial stringencies imposed for 1976, it has attracted the attention of distinguished scholars and students in Australia and overseas and remains a development for which the School will actively plan. The third is the indirect result of the Sixth Report of the Universities Commission. Because of the limited growth allowed to University Centres, the School has been able to welcome back the Contemporary China Centre which will now remain one of its important research units.

Australia-Japan economic relations
Another development is linked with another former Director of the School who left to become Vice-Chancellor and has now been invited to be the new Chancellor—Sir John Crawford. His deep involvement in Australia-Japan economic relations has led not only
to a valuable study involving the Department of Economics, but has stimulated a
greater interest in Japan studies. Dr E. S. Crawcour of the Department of Far Eastern
History has formally initiated a Committee on Japanese Studies which hopes to draw
together Japanese scholars not only in the School but throughout the University.

**Exchanges with Academia Sinica**
The School has been involved in a number of study trips to China but perhaps the most
promising occurred this year. This was when the Academia Sinica in Peking invited six
members of the Departments of Biogeography and Geomorphology, and Prehistory to
visit their major research centres and field sites. Valuable contacts were made and
much data gathered; also, the Academia Sinica has proposed to send a corresponding
team of scientists to return the visit.

**Papua New Guinea languages**
In the South Pacific area, while the anthropologists, geographers and historians have
been specially active, a fine example of co-operative scholarship reached fruition
towards the end of the year. This is the large first volume of a three-volume work on
New Guinea linguistics, entitled *Papuan Languages and the New Guinea Linguistic Scene.*
The work was done by a team of staff and students led by Professor S. A. Wurm. It was
carried out over a period of nearly 10 years and is the most successful case of linguistics
team work done in Australia, comparing favourably with the best work of this kind done
anywhere in the world. The first volume concerns itself with those languages spoken by
the original inhabitants of the New Guinea area. Later volumes will go on to examine
immigrant languages. The monumental study as a whole will be called *New Guinea
Languages and Language Study.*

**The past in South-East Asia**
In the South-East Asian area, the number of projects on Indonesia and Malaysia
continued to rise and the School added to its range by new work on Thailand, the
Philippines and Vietnam. The most imaginative effort so far to bring scholars from all
over Australia together to examine a common theme for this very complex region is the
colloquium planned to study ‘South-East Asian perceptions of the past’. Although the
meeting itself has been postponed to early 1976, the planning and the preliminary
discussions during the year have already proved to be illuminating. This is the work of
the Department of Pacific and South-East Asian History and the team is led by
Dr A. J. S. Reid. It is a colloquium which not only re-examines the earlier work done
in seminars and conferences organised at the University of London in the 1950s and at
Cornell University in the 1960s, but also opens up new areas of inquiry which take into
account the work of indigenous South-East Asian historians of the postwar period.
The insights which the colloquium gives to Australian understanding of the region
should be invaluable.

**Three projects on China**
In the East Asian area, important research on contemporary China and modern Japan
continues, but three separate projects on Chinese history illustrate the value of sustained
scholarship supported for a number of years: one in ancient history, one in medieval history, and one in modern history. All three involve small teams of researchers headed by dedicated scholars. The first concerns metallurgy in ancient China and archaeological documents of ancient China and a by-product has been a fine exhibition in Melbourne of Chinese bronzes in Australian and New Zealand collections and a useful handbook as well. This work was done largely by Dr N. Barnard, FAHA. The second concerns the Yüan biographical project for the 13th and 14th centuries, headed by Dr I. de Rachewiltz, FAHA. The three-volume index of materials is now complete and the first biographies have been written. This fills a vital gap left by the great biographical projects organised at Columbia University, the Library of Congress, the Sorbonne and the University of Munich. The third concerns an Australian who left his mark on modern Chinese history, Dr G. E. Morrison (1862–1920). His voluminous correspondence and his famous diary have been dipped into by many scholars. Now the first of a multi-volume collection has been published. The editor is Dr H-m. Lo who heads a small team which has worked to bring out the best of the great Australian’s own words.

Aboriginal studies
The School’s research within Australia has ranged from various aspects of human and physical geography to the diplomatic and economic interests of the country. But the area which continues to attract public interest is that of Aboriginal studies and it has also been a demanding one in which to work. Again the School’s research interests have been wide. It has several of its archaeologists working on the prehistory of north-central and south-eastern Australia and a number of its anthropologists investigating social interaction and economic problems of contemporary tribal and urban groups. Much of the work is done with the co-operation of the Australian Institute of Aboriginal Studies, the Commonwealth Department of Aboriginal Affairs and the University’s new North Australia Research Unit (NARU) and is yet another example of the School’s belief that a degree of co-ordination in research of this kind can be very fruitful.

Other School activities
During the year, Professor J. Golson was elected a Fellow of the Australian Academy of the Humanities. He also gave the Eighth Stanley Memorial Lecture of the Papua New Guinea Society in Port Moresby. Dr T. G. McGee (Senior Fellow in Human Geography) was elected a Fellow of the Academy of the Social Sciences, as was the School’s former Director, Professor Low. Dr N. R. McArthur in the Department of Pacific and South-East Asian History was the School’s representative at the 15th South Pacific Conference. Professor H. N. Bull, FASSA, gave the Drysdale Memorial Lecture on ‘Resources Diplomacy’. The Morrison Memorial Lecture was given by Professor Yi-fu Tuan of the University of Minnesota, his subject being ‘Chinese attitudes to nature: Idea and reality’. Various members of the School continued to advise or serve on public boards and Commonwealth committees. Special mention should be made of the appointment of Professor J. D. B. Miller, FASSA, to the Australian Research Grants Committee.
Research School of Physical Sciences

The objectives of the School are to provide opportunities for highly qualified physicists and mathematicians to undertake research at the frontiers of international science and mathematics and to utilise to the maximum advantage the experimental facilities which are available within the School and to a smaller extent in external organisations. In 1975 the achievement of these objectives was affected in some areas by the inevitable downturn in activity which was imposed by financial stringencies.

PhD enrolment trends
In recent years the demands for postgraduate training in physics and mathematics in universities in Australia and overseas have diminished. In this School in 1974 there was a decrease of nearly 30% in PhD student enrolments compared with those in 1973. Although the change in trend may not be significant, it is worthwhile recording that this School's PhD student enrolment in 1975 was 10% greater than that of 1974. Some departments within the School appear to be particularly attractive to postgraduate students, for example Astronomy and Applied Mathematics. In Astronomy there are increasing opportunities to use sophisticated equipment for astronomical observations. In Applied Mathematics there is a wide variety of research opportunities in interdisciplinary areas such as colloid science—concerned with such matters as the separation of minerals by floatation; in membrane physics, which is of direct relevance to fundamental biological processes; and in research into the mechanisms of vision in animals and insects.

A review of the School
The School, in common with similar research organisations, clearly recognises that it is both prudent and responsible for all research programs and planning to be subjected to critical evaluation. Thus significant projects may be strengthened, unproductive programs discontinued, and new initiatives taken. Such evaluations are carried out at the departmental level as a continuing activity. However it was agreed that there should be a critical assessment of the research activity of the School as a whole. It was decided to obtain advice from a Research Program Review Committee with a relatively large membership of eminent scientists, engineers and mathematicians from outside the School and the University. The Committee was set up during the year and began its assessment program which involved meeting members of staff of the departments to discuss their work and future plans. It is expected that the advice to the Faculty Board embodied in the Review Committee's report will play an important part in the future activity of the departments of the School.

Membranes and surfaces
Collaboration between this and other Schools of the Institute of Advanced Studies continued in 1975. Joint appointments to the academic staff of the Department of Applied Mathematics and the Research School of Biological Sciences proved very successful in stimulating and developing collaborative research programs. A particular interest of the Joint Schools Biophysics Project is the way in which the properties of
membranes, which are of importance in so many areas of biology, may be understood and described in terms of fundamental physical processes. A matter of great interest is how forces between surfaces arise and how they depend on the distance apart of those surfaces. Apparatus has been designed and is now operating in which precise control of the separation of two surfaces immersed in a liquid may be achieved and the forces then acting between these surfaces measured very accurately. The distances which are of interest are of the order of atomic distances and the accurate measurement of the very small forces and of the separation of the surfaces is a major achievement in measurement science. It is hoped through the utilisation of the equipment to obtain numerical data required for the solution of a number of fundamental problems concerned with the interactions between surfaces.

**Solar energy**

A new concept for the large-scale conversion of solar energy into electrical heat is being evaluated. An attractive feature of the proposed method is that it embodies a convenient way of storing energy during periods when direct solar radiation is absent.

The process is based on the fact that when ammonia is heated to relatively high temperatures it splits up into its two constituent gases, hydrogen and nitrogen. These separated gases may be stored indefinitely at ordinary temperatures. In properly adjusted conditions it is possible to induce the reverse process in which ammonia is created by the chemical reaction of the nitrogen and hydrogen. The important thing at this stage is that this reverse reaction produces heat energy which may be used as required, for example for raising steam for electricity generating equipment. The initial splitting up of the ammonia gas, it is envisaged, will occur in small vessels which are placed in mirrors pointing to the sun and thus heated to high temperatures by the solar energy.

**New steps in theoretical and nuclear physics**

During the year a good deal of interest was generated throughout the world by the discovery of new fundamental particles in high energy physics experiments. It was possible for members of the Department of Theoretical Physics to make some contribution to understanding of these experiments.

In the Department of Nuclear Physics experimental work continued, utilising the recently installed $^{14}$UD heavy ion accelerator. Facilities available for this work are being improved by the installation of a magnetic spectrograph—a device for the accurate analysis of the products obtained by bombarding target nuclei with the beam of high energy ions from the $^{14}$UD accelerator. The building to house the spectrograph began in 1975; the spectrograph itself was built in Sweden and accepted for delivery by the end of the year.

**Other interests and activities**

During the year the Director, Professor R. Street, FAA, continued as Chairman of the Australian Research Grants Committee and of the National Standards Commission. He was also appointed as a member of the Interim Australian Science and Technology Advisory Council, and continues to be a member of the Anglo-Australian Telescope
Board. In September he was appointed Vice-President of the International Union of Pure and Applied Physics.

Professor J. O. Newton, Head of the Department of Nuclear Physics was elected a Fellow of the Australian Academy of Science in recognition of his distinguished contribution to nuclear physics. In January, Professor S. Kaneff accepted an invitation to be a member of the Australian Inventions Advisory Committee which is under the auspices of the Department of Industry and Commerce. Dr A. W. Snyder, Professorial Fellow in the Department of Applied Mathematics was awarded the Edgeworth David Medal of the Royal Society of New South Wales; and Dr R. J. Baxter, Professorial Fellow in the Department of Theoretical Physics was awarded the Pawsey Medal by the Australian Academy of Science.

Many eminent visitors visited the School to give lectures and to collaborate with their colleagues here and elsewhere in Australia. Prominent among these was Professor P. A. M. Dirac, who received the Nobel Prize in Physics in 1933. He presented a series of lectures which attracted a great deal of interest at all levels in the scientific and general community.

Building of new accommodation to be used *inter alia* for the housing of the Department of Solid State Physics continued in 1975. Occupation of the building when completed early in 1976 will provide some relief for other activities within the School which are at present handicapped by cramped and inadequate quarters.

**Research School of Social Sciences**

**Continuing system of review**

At the end of 1975 the School faced a very different situation from that which it faced at the end of 1974. Not only had expectations of expansion been reduced almost to vanishing point, but the number of academic research staff had actually fallen. In these circumstances, new research developments may have to depend on new posts but on the re-allocation of existing posts; and it is now School policy that any post falling vacant may be transferred to whatever use is considered most urgent. This reduces the stability of departments, but it greatly increases research flexibility and amounts to a continuing system of review.

Two founder-members of the Institute retired at the end of the year, Professor P. H. Partridge, FAHA, FASSA (Chair of Philosophy) and Professor G. Sawer, FASSA (Chair of Law). Careful consideration was given to proposals for the future of these Departments, and it was concluded that both Chairs should be filled. Professor J. J. C. Smart, at present at La Trobe University, has accepted appointment to the Chair of Philosophy, and steps are being taken to attract to the School a first-class constitutional lawyer as a successor to Professor Sawer.

**Australian Leadership Study**

Because 1975 was the last year of a triennium, the continuation of work on projects already begun in the School was more common than starting new ones. But in two cases this process of continuation broke new ground. The Australian Leadership Study was begun in 1974. It is concerned with the beliefs and activities of those who are in a
position to influence significantly the course of events in Australia. In short, it is concerned with the ruling class, provided that the ruling class is understood to include members of large or otherwise important political parties, public bureaucracies, business firms, trade unions, pressure groups, organised protest movements, religious establishments, news media, universities and so on. The study is designed to explore the extent of agreement among members of this elite group on major economic, political and social issues, and to discover how far members of the group are still influenced by the old-fashioned ideologies of liberalism and socialism, or whether, in some cases, these are being replaced by a new ideology. Because similar studies have recently been done in other countries, notably the United States and Canada, international comparisons will be possible. After lengthy preparation, the principal research workers, led by Dr J. Higley, were able to carry out the carefully devised interview program upon which the study depends, and to interview about 400 carefully selected persons throughout Australia. As a result, the Department of Sociology now possesses a large amount of valuable information which is, of course, strictly confidential as it applies to individuals, concerning the backgrounds, recruitment, attitudes and activities of these influential persons.

**Australian Dictionary of Biography**

By comparison with the Australian Leadership Study, the Australian Dictionary of Biography had its beginning in 1963. This ambitious project is the work of literally hundreds of scholars. Five volumes have so far been published, and last year work began on the third and final phase covering the years from 1891 to 1939. This will result in six further volumes containing approximately six thousand biographies of distinguished Australians, a larger number than appeared in the previous volumes which cover the far longer period from 1788 to 1890. This is a truly national undertaking. There are working parties throughout Australia, their membership not confined to professional historians but including doctors, lawyers, administrators and others. The centre of this network is in the School, where the two joint editors of the Dictionary, Mr N. B. Nairn and Dr A. G. Serle, have the formidable task of keeping in constant touch with the working parties and the often far-flung authors and of checking, collating, editing, and sometimes writing, the biographies. At present the Dictionary has a Biographical Register of about 25,000 cards, each with information on one person, and a further 65,000 reference cards. Some of this information will be included in later volumes; some of it is held simply for the use of scholars and any other persons interested in Australia’s past.

**The Australian Mixed Economy**

By contrast with these works of continuation, the Department of Economic History reached agreement last year on a unified departmental research program to be begun in 1976. This program is designated ‘The Australian Mixed Economy, 1900–1975’, and is explained in some detail by Professor N. G. Butlin, FASSA, in a departmental paper. Briefly, the focus of interest is ‘the mixedness of the economy’. That the Australian economy is mixed in the sense that there is a ‘private sector’ and a ‘public sector’, and that each of these has existed in Australia from the beginning is a well-known and indeed
obvious fact. It is also nowadays generally appreciated that much ‘private’ activity is controlled or affected by decisions taken within large corporations. What is not so obvious is that governments themselves are not independent entities, but function within a complex system of group interests. Representative governments purport to, and in the main do, provide an agency function for different groups with competing claims. Thus changes in the nature and scope of government activity can be seen as reflecting changing relationships between different groups in society; while at the same time changes in government activity benefit or disadvantage different groups. This research program raises complex and far-reaching issues, for it is concerned with one of the most important questions now facing us; what should be the role of government in a modern complex industrial society?

Other studies of Australian and international society
The activities outlined in the preceding paragraphs have been selected for comment because of their intrinsic interest; they are not necessarily on a larger scale or more important than other research work in the School. There is not space to mention other work in the Departments of Economic History, History, and Sociology, and the remaining departments/units can be surveyed only very briefly.

In the Department of Demography several members continued to work on the Australian Family Formation Project. Professor J. C. Caldwell, FASSA, was engaged on the Changing African Family Project as well as the Nigerian Family Study. Analysis was carried out of data from the 1975 Indonesian Fertility–Mortality Survey, and work on migration in South-East Asia and immigration into Australia continued. The First Report of the National Population Inquiry was tabled in Parliament early in the year and the research group responsible continued, under Professor W. D. Borrie, OBE, FASSA, its analysis of demographic trends in Australia. In the Department of Philosophy there was increased interest in ‘practical ethics’, touching, for example, the ethical aspects of environmental and legal problems. There has also been exceptional activity in the field of logic, partly because of the presence in the Department of several visiting logicians from overseas. As regards the Department of Political Science, mention may be made of the publication of the three volumes of Caucus Minutes of the Federal Parliamentary Labor Party, of the continuation of work on the structure and processes of policy-making in Australian central government, and of the approaching publication of several volumes in the series on Australian state and territory governments; those on Victoria and Tasmania should appear during 1976. Work was done on aspects of the Russian political system both under Lenin and Stalin, and on the recent impact of technology on Russian agriculture. The Department of Law suffered from the departure of Professor Sawyer to serve as Pro-Vice-Chancellor, but research continued, and in addition a very successful international seminar on Codification was held, attended by ten overseas visitors and a large number of (invited) academic lawyers from Australia. The Commonwealth Government secured from the Department of Economics an unusually large share of the services of both Professor T. W. Swan and Professor F. H. Gruen during the year, particularly in the weeks and months leading up to the budget. In spite of this, research effort was maintained. In the Department of
Statistics work continued to include problems of applied probability, linear time series structures and human genetics.

During 1975 work in the Urban Research Unit continued on metropolitan planning and development in all of the major urban areas in Australia. A study began of changes in the inner suburban areas of Sydney and their effects on the people (mainly lower income groups) living in these areas. Comparisons of accessibility between different parts of Sydney continued, and two members of the Unit contributed the section on Australia for an international comparative study of housing policy commissioned by the United Kingdom Department of the Environment. In the History of Ideas Unit, besides normal research work, a seminar was organised on the topic 'A revolution in our age? The transformation of law, justice and morals'. Papers given in this seminar will appear in a new series entitled Ideas, Ideologies and Change to be published under the general editorship of Professor E. Kamenka, FASSA, FAHA. During the year a Visiting Fellowship was held for three months by Sir Isaiah Berlin, formerly President of Wolfson College, Oxford. Sir Isaiah gave the ANU University Lectures for 1975 on 'The romantic revolution of ethics and politics', and was in great demand as a speaker throughout the Australian universities. The Education Research Unit continued to concern itself with problems in tertiary education, secondary education and the federal system. In the first of these fields a major study of Colleges of Advanced Education was completed, and investigation continued of the transition of students from school to work or to further study. Also, increased attention was paid to the technical and further education components of tertiary education and to the post-school educational needs of the population of Northern Australia. In the Centre for Foreign Politics (Western Europe) work was done on the nuclear balance from the viewpoint of Australia as an ally, on the national movements towards devolution or secession within the United Kingdom, and on the progress toward the political unification of the European Economic Community. Noteworthy new deposits were made in the Archives and the number of users, many of them from outside the University, was comparable with the figure for 1974. Throughout the year the Programming Section successfully supported the DEC System-10, and points for computer terminals were installed throughout the Coombs Building.
Faculties

Faculty of Arts

An overall view of the Faculty
Though the largest of the Faculties in this University, the Faculty of Arts is, compared with others in Australia, relatively small numerically and contained in its offerings. It is therefore able to think of itself as an entity, to recall its history, recognise its adjustments to current educational demands, and respond to appropriate initiatives. C. M. H. Clark, L. F. Crisp, and A. D. Hope, foundation professors, remain closely associated with the three biggest departments, History, Political Science, and English; current developments include Aboriginal Studies, Human Sciences, and Women’s Studies; planned developments Fine Arts, Music, and Religious Studies. The Faculty’s three main areas of interest, the humanities, the mathematical sciences, and the social sciences, while they shade variously into Asian Studies, Economics, Law and Science, yet retain some sense of integrating purpose. Being the least vocationally oriented of the Faculties, Arts remains closest to the spirit of the University’s motto, ‘Naturam Primum Cognoscere Rerum’.

The Faculty is continually subject to its own reassessment of its aims and achievements. Though it retains a departmental structure there are interdisciplinary courses, like Aboriginal Studies, Human Sciences, and Medieval Studies. Though the form of the degree has not changed, both full-year and semester courses are offered. Though the traditional lecture course and final examination pattern still exists, the Faculty has responded to changing educational philosophies by encouraging experiment in methods of teaching and assessment. The Faculty is primarily an undergraduate teaching faculty, but it is also a community of scholars, aware of its place in the changing pattern of tertiary education and of its responsibility not just to impart but to preserve and further knowledge.

Teaching and assessment
Methods of teaching and assessment have been much under review. There has been a continued move towards informality, towards a less inhibiting staff–student relationship than that implicit in the formal lecture, and towards a less intimidating form of assessment than the final three-hour examination. But the response has varied with the discipline: informality in teaching and free choice in methods of assessment are more productive in some disciplines than in others. The Faculty has not been consistent in its response to a relatively uniform student demand because it has recognised that the final responsibility in matters of course content and assessment rests with the tenured staff of individual departments. Student participation in the making of both departmental and faculty decisions has on the whole been profitable. In this, as in other
faculties, the question has been bedevilled by the attempt to determine the degree of student participation by the imposition of a single proportional formula. The Faculty has firmly rejected this, allowing its departments to resolve the question in the manner most appropriate to their individual situations. In this, as in other areas of educational philosophy, change is necessarily slow; but the range of experiment going on within the Faculty has long-term value.

**New developments**

Areas of development have, on the whole, been more a matter of concern to staff than to students. The notable exception is Women’s Studies, an advanced level, interdisciplinary course beginning in 1976. But this year has seen important developments in traditional areas of study: the expansion of Italian, within Romance Languages; the beginnings of Polish, not taught elsewhere in Australian universities, within Slavonic Languages; the experiment of an interdisciplinary course in nineteenth-century European literature and society, involving both historical study and the acquisition of a reading knowledge of French, German, or Russian, an experiment which dramatically illustrates the interest within the Faculty in breaking down the barriers between traditionally discrete but closely interrelated areas of study. The Department of Prehistory and Anthropology, which took its first students in anthropology in 1974, offered advanced units in 1975. Prehistory and Anthropology, Linguistics, and Sociology, all relatively new, remain the fastest growing of the departments in the Faculty.

**Postgraduates**

The number of postgraduate students enrolled in the Faculty has continued to increase. A large proportion of these are part-time master and master qualifying students, public servants and teachers seeking to improve on their first degrees. The wastage in both categories is high but the Faculty regards the offering of the opportunity as an important service. Degrees of master by course work in English, Geography, Linguistics, Psychology, and Prehistory and Anthropology continue to prove attractive. The number of doctoral candidates has also increased, the departments drawing most students being English, History, Linguistics, Prehistory and Anthropology, and Sociology. This interest reflects not only the attractive conditions at the University but also the growing reputation of departments within the Faculty.

Much of the research in the Faculty is the work of individuals. The following paragraphs describe briefly some interesting areas of major research in four of the Faculty’s departments.

**Geographical research**

During 1975 the Department of Geography pursued varied research interests in the natural and human features of the Australasian region, several projects being financed from awards by research institutions and government agencies. In Australia studies were concerned with sea-level changes and the development of coasts, the morphology of the Murray–Darling river system, the potential for recreation of the different climatic regions of the continent, the effect of natural hazards on the population of northern New South Wales, the effect on employees of the Bureau of Statistics of the relocation of the office of the Bureau in Canberra, and the location of manufacturing enterprises.
in Adelaide. In South and South-East Asia studies of agricultural development and change were undertaken in India, Sri Lanka and northern Thailand, and the effect of a growth centre on internal migration in Thailand's primate city system was studied. These varied studies by members of the staff were augmented by student research into various features of the natural and human landscapes of Australasia.

**Australian Aboriginal languages**

The Department of Linguistics has work going on in both the theory and the description of languages. Original work is being done in the theory of semantic primitives, the theory of historical change and dialect diversification, syntactic theory, syntactic typology, phonetics, and applied linguistics. At the same time there is intensive work in the description of Australian languages and studies of other languages, such as Austronesian, Papuan, Sino-Tibetan, Nilo-Saharan and Indo-European. The most concentrated descriptive work is on Australian Aboriginal languages. Much of this has consisted of salvage studies, field work on Aboriginal languages with only a few remaining speakers, and there is a notable interplay between the description of individual languages and comparative studies. The latter have the goal of reconstructing the original parent language from which present-day Aboriginal languages descend, and contributing to the understanding of Australia's prehistory.

**Early man in Australia**

The Department of Prehistory and Anthropology, in collaboration with the Department of Biogeography and Geomorphology, Research School of Pacific Studies, continued its archaeological research in western New South Wales, on the shores of former Lakes Mungo and Arumpo. These sites have produced the earliest dated evidence for man in Australia (40,000 years). During the year two accumulations ('middens') of mussel shells and charcoal, including a definite hearth, were excavated along with a large stone tool in a context believed to be well over 30,000 years old. Analysis of this material together with other faunal remains such as fish bones, will assist the reconstruction of the environment at this early stage of human colonisation.

On the anthropological side, of the Department, the research effort is only just starting, but students and staff are actively engaged in research in Australia and Papua New Guinea. The theoretical interests of the Department tend towards the analysis of ritual and other symbolic systems, more particularly art, as well as the ecological and social aspects of societies in the area. Work in South-East Asia is also increasingly represented in the Department's activities.

**Drug education and social networks in Canberra**

The Australian National University Drug Education Project has been conducted in Canberra high schools for the past four years. Funded by the Commonwealth Department of Health, and the Hospital and Health Services Commission, the Project is based in the Department of Sociology. A final report is presently being written.

During 1975 members of the Department of Sociology conducted a survey of social networks in Canberra. The survey investigated the social ties linking people together and is part of a program to develop a methodology for the study of large-scale social systems in urban environments. A second survey was conducted in the Belconnen area
of Canberra for the Ginninderra Community Council, a local citizen action organisation. The analysis focused on the extent to which residents feel they could rely on neighbours, friends or relations for assistance in times of crisis and was oriented towards the development of local community social services.

Students in the course on Urban Sociology worked on a study of social aspects of urban redevelopment in Canberra. An important phase of this project was a survey of residents' attitudes to recent and proposed redevelopment in the suburb of Kingston.

Faculty of Asian Studies

Asian languages and cultural traditions

The five departments of the Faculty of Asian Studies continued work in their general areas of concern: teaching the languages and cultural traditions of some of the major areas of Asia to Australian students at pass and honours level, and the development of postgraduate studies. It is Faculty policy that Asian Studies units should be available to as many students as possible, particularly those taking pass degrees with a 'liberal arts' configuration, and a major step in the line of this general policy was the granting to the Department of Asian Civilizations joint membership of the Faculty of Arts. Honours students require a more specialised course structure which must include training in an Asian language, whatever the discipline in which a student wishes to specialise. The enrolment of honours students in the Faculty continued to be satisfactory and there was a healthy spread in the range of the thesis topics supervised for higher degrees in the Faculty. These topics included work on the modern literatures of Asia, on the response of different Asian communities to Westernisation, on aspects of the cultural and religious history of the region, and in the more specialised field of philological research.

Concern for problems of learning and teaching

This range of approaches and emphases in teaching and research is reflected in the concerns of the departments and the publications of individual staff members. In Australia there is a special need for academic study of the problems of Asian language teaching and for an academically-responsible range of textbooks at both secondary and tertiary levels. Language teaching is a rapidly growing discipline and it is necessary for Asian language teaching to keep abreast of developments in this field. It is in recognition of this need that two new units introduced in the Departments of Chinese and Japanese respectively—'The Chinese Language and its Structure' and 'Teaching Methodology of Japanese'—are concerned with problems of learning and teaching these languages, and that two important publications by members of the Faculty, are contributions to effective language teaching. The further end of the spectrum of the Faculty's interests is illustrated by the numerous, specialised publications of the Department of South Asian and Buddhist Studies.

These examples should suffice to show that this range of academic activity in the Faculty, from basic research to the provision of tools for teaching, and the bringing of knowledge about Asia 'out of closets and libraries, schools and colleges, to dwell in clubs and assemblies, at tea tables and in coffee houses', has a place in the programs of all its departments.
Summers course and community interest
It is in this spirit that the Faculty has in various ways played a role in extending knowledge about Asia to the community at large: most importantly in 1975, in organising and teaching Summer Courses in Arabic, Bahasa Indonesia, Chinese and Japanese in collaboration with the Centre for Continuing Education, but also by participating in numerous general seminars and discussion groups, and by its members making themselves available to give informal talks and lectures to schools and other institutions.

Languages in lesser demand
The Faculty has used established departments to introduce on a small scale languages with a lesser appeal in order to support research projects, to arouse student interest, and in general to test out those areas of scholarly activity in which further development might be supported on a larger scale. These languages include Thai and Literary Arabic, supported by the Department of Indonesian Languages and Literatures; and Literary Persian and Hindi, supported by the Department of South Asian and Buddhist Studies. Of these languages, Arabic attracted the most first-year enrolments.

Faculty-student relations
Student unrest in 1974 did not result in any confrontation within the Faculty. However, an atmosphere of ferment was generated which in 1975, thanks to ample goodwill on both sides, led to healthy exchanges of views, the restructuring of courses, effective discussions in Departmental Committees and the Faculty Education Committee, and an extension of the types of assessment available to students in the Faculty, given the nature of the subjects taught and the teaching methods employed.

International awards
The international character of the Faculty was enhanced by visits from a number of distinguished academics from America, Europe and Asia, and it is a pleasure to note that four members of the Faculty received international recognition. They were Professor A. L. Basham, FSA, FAHA, who was awarded the Dr Bimala Chrun Law Gold Medal for 1975 by the Royal Asiatic Society, Calcutta, for his contribution to the study of the religious history of Ancient India; Professor J. W. de Jong, FAHA, who was elected to the Consultative Committee of the International Association of Sanskrit Studies; Mrs Y. Johns who was presented with a formal letter of appreciation from the Indonesian Government in recognition of her contribution to the teaching of Bahasa Indonesia in Australia; and Dr P. Ryckmans who was awarded the Belgian Government Christophe Plantin Prize for Sinological Studies, and the Academie Francaise Jean Walter Prize for literary achievements for the year.

Faculty of Economics

Enrolment trends
Undergraduate enrolments in the Faculty have stabilised during the year which is an unusual event in this Faculty, although there has been continued strong growth in postgraduate numbers. There were no new appointments approved for departments of
the Faculty based on 1975 enrolments, although both Computer Science and Statistics had an entitlement to new posts under the present staffing formula. In response to recommendations from the Vice-Chancellor's Working Party on Computing and from this Faculty, Standing Committee resolved in June 1975 'to recognise the commitment to establish in the 1976–78 triennium a separate Department of Computer Science and a Chair of Computer Science but to postpone consideration of the timing of this development'.

**Master of Administrative Studies program**

1975 was the first full degree year of the Master of Administrative Studies (MAS) program and three full-time students will submit their dissertations in February 1976. Later in that year they should become the first group of students to be awarded the degree of Master of Administrative Studies from the ANU. Seventeen students completed extensive bridging and qualifying programs in 1975 to allow them entry to the degree program this year. The rate of development of the MAS program will be largely determined by the number of successful qualifiers who enter the degree program in 1976.

**Master of Economics by course work**

Since its inception in 1970, 92 students have entered the Master of Economics by course-work program, and 76 have successfully completed the program. The bulk of the unsuccessful students have been part-time and have been forced to withdraw due to their inability to meet the demands made by both the course and their employers. The classification by initial degree—54 first class honours and 58 second class honours, division A—indicates the high intake standards of the program. Further confirmation of the quality of the intake is also evident each year when applicants for this program compete for Postgraduate Course Awards offered by the Commonwealth Government.

Most of the students completing the course take up appointments with the Public Service in Canberra, a small proportion go to the private sector and perhaps three or four graduates proceed each year to a PhD degree. One important function of the program is to provide better trained economists for the Government; another useful feature of the course-work program is that it acts as a very necessary filter for intending PhD students.

The actual courses and emphasis of the program have changed over the last seven years. It was found necessary to give the students a basic grounding in macro and micro economics, while the demand from the students has been largely for courses in analytical rather than descriptive economics.

It appears at present unlikely that the program will expand much beyond 15 to 20 students a year largely because of constraints on the output of honours students from the Australian universities and the availability of scholarships. A further factor is the trend, which has had most undesirable consequences in Britain, to establish many competing programs for the degree of master. This can result in many elaborate programs limping along with a minimal number of students. It is possible that this could happen here; however, as our program is well established and as the reputation of this University in economics remains high internationally and within Australia, it seems unlikely at present that such developments will seriously inhibit the program.
Self-paced instruction

An innovation in teaching technique was the use of a variant of the so-called Keller Plan of self-paced instruction in the second-year unit Statistics 301. This is essentially traditional tutorial teaching tailored to the financial exigencies of the modern university. The method had previously been successfully implemented at ANU in a first-year mathematics unit. Under this scheme students work at their own pace to complete a sequence of half-hour tests on successive segments of the course. Formal lecturing is kept to a minimum and the main vehicle for instruction is a laboratory class at which students meet their tutors, work exercises and, when feeling adequately prepared, attempt a test. Tests are marked with the student present since discussion of answers with the tutor is considered an essential element in this mode of instruction. An optional end-of-semester examination is available to students who either wish to improve their grades or have completed some, but not all, of the unit tests. Under the scheme a student can complete the course before the end of the semester and in fact roughly one-quarter of the class completed before the end of first term. In general the innovation was deemed successful and will be continued in 1976. This year’s experience indicates that the method of instruction generally increases the student’s interest and comprehension but at the cost of additional time on the part of both students and, in particular, staff.

First-year classes

In the previous Faculty report the special assistance given to first-year students in Economics was outlined in great detail. Despite continued efforts in this direction there remains a situation where approximately 60% of students enrolled in a first-year subject in this Faculty pass that subject. In the Department of Accounting and Public Finance, a comparison of the performance of students in Accounting 1 with that of students in all other accounting units has demonstrated a differential success rate which clearly arises from a failure by first-year students to persist with their studies. This is a characteristic which is found in all first-year units within the Faculty.

The variety of assessment and teaching methods used by departments in the Faculty has increased in units where the subject matter and class size are suitable. Such innovations cannot be effectively implemented in large first-year classes, even where the subject matter is suitable, given present staffing constraints.

Departmental Committees

All departments instituted Departmental Committees which included student representatives in the latter part of the year. It does seem much too early to attempt to assess the value of this arrangement to both staff and students. The report of the Department of Economics does however draw attention to views expressed by members of that Department which assert that proper debate on important academic matters had been inhibited by the presence of students.

The views which the Faculty Education Committee sent to Faculty meetings and to the Board materially assisted the deliberations of both bodies. It was useful to consider major issues at the Faculty level with an expression of opinion on those issues which had arisen from a forum where staff and students had equal representation.
Control theory and economic analysis

Members of the Department of Economics were engaged in a wide variety of research activities during 1975, as is reflected in the publications list. Perhaps the highlight was the completion of *Application of Control Theory to Economic Analysis*, to be published by North-Holland in the 'Contribution' series in 1976. This consists of 12 essays written by various members of the department (including past visitors) and was edited by Professors J. D. Pitchford, FASSA, and S. J. Turnovsky. It represents the culmination of several years' work by the various individuals involved (many PhD theses) and provides a centralised outlet for much of the research recently undertaken in this department. It is hoped that it will represent a significant contribution to the economic applications of control theory, much like the volume edited by K. Shell some years ago.

Other Faculty interests

The Third World Congress of the Econometric Society was well attended by members of the department. Two of the papers presented were invited contributions and are to appear in *Frontiers in Quantitative Economics*, also to be published by North-Holland. The other two papers are being published in other forms; one in *Econometrica*, the other as part of a larger book.

An excellent group of visitors were attached to the various departments of the Faculty during 1975. They were Professor Y. Yasuba from the Center for South-East Asian Studies, Kyoto University; Professor W. J. Ewens and Professor E. Burmeister from the University of Pennsylvania; Dr S. I. Resnick from Stanford University; and B. Smith from the University of Strathclyde. Also nine visiting fellows, drawn from Australian and overseas universities and from government departments and commissions, were attached to the Centre for Research on Federal Financial Relations. The presence of distinguished overseas visitors is an important stimulus to the research and teaching activity of the Faculty and we hope that despite the difficult budgetary situation in 1976 the visitor program can be maintained, even if it must be somewhat curtailed.

Faculty of Law

Law studies and combined courses

The Faculty is concerned primarily with the teaching of law for the degree of Bachelor of Laws (LLB), pass and honours, and with research. Most of the Faculty's students enrol in combined courses, that is, they undertake a second degree other than law and, although this extends their enrolment to five years' full-time study, they graduate with two degrees. The most common combined course is the BA/LLB. The Faculty recognised that combined course students undertook a significantly heavier work load for the law component of their course during the final and penultimate years; also, that because of the degree structure their choice of optional subjects was sometimes more limited than was desirable.

Review of the courses

With these two factors in mind an extensive review of the LLB course was conducted
during 1975. Recommendations accepted in principle by the Board of the School of General Studies, and later by Council, are now being discussed with the other faculties and with the Admission Authorities of ACT, NSW and Victoria with a view to their implementation in the 1976 academic year. It is envisaged that the subject of Contracts will be offered with a revised structure so that it is taught for two rather than three hours a week; it will be taken during the first rather than the second year by students undertaking combined courses. Thus the work load during the first year will be slightly increased. By reducing the teaching hours in a second subject, Commercial Law, it will be possible to add a second extra subject to the first three years of the combined course. The overall effect will be to reduce the teaching hours a student must accept during the latter years and also, by the incorporation of two compulsory subjects into a single compulsory subject, allow a student to undertake a further optional subject of the individual's choice.

During the course of the year the Faculty also reviewed its procedure for inviting entry to examination for the degree with honours and also how the examination should be conducted. The institution of a quota in 1971 has led to an increasingly intelligent and motivated student intake. The method of awarding honours degrees was revised to take account of the generally rising standard of the law student.

**Student numbers and admission standards**
The ceiling of student numbers in the Law School is 550 but this has unfortunately continued to be exceeded in 1975, despite an intake of only 158 students. In an effort to bring student numbers gradually down to the maximum agreed to by Council, Faculty decided that only 125 new students would be permitted to commence law studies in 1976. The shorter course—three years' full-time study as opposed to four—for graduates in other disciplines was in considerable demand and it was necessary to restrict the number accepted into this course to 25% of the total quota in order to ensure the admission of as many school leavers as possible. Nonetheless, the admission standards continued to rise above the levels attained in previous years; only school leavers with an aggregate mark of 610 at the New South Wales Higher School Certificate, or its equivalent in other states, received the offer of a place. This equated to the 8.04 percentile. From the standard and quantity of applications received to date for the 1976 academic year, it is not unreasonable to anticipate a further rise in the admission standards required for entry. The total number qualifying to graduate with the LLB degree continued to rise at an undiminished rate. Some 82 qualified for admission to the degree as against 72 in 1974.

**Master of Laws by course work proposal**
The Faculty's attempt to interest more graduates in pursuing law studies beyond the bachelor level by instituting a Master of Laws by course-work program was frustrated by insufficient suitably qualified applicants in 1974. This year, although there was a rise in both the number of people showing interest and their standard of qualification, the decision was made to defer the introduction of the course because of uncertainties concerning the level of staffing in 1976. The Faculty is optimistic that despite these initial setbacks it will be possible to introduce the program soon.
Research interests
The second major function of the Faculty is research. The fields in which members of the Faculty of Law conducted research are reflected in the publications listed in the Report. These range from the more traditional areas of constitutional law, the law of contracts, company law, family law, criminal law, labour law, international law and land law to those involving trade practices, securities market regulation, privacy, computers and the law, consumer protection, penology, environmental law and legal aspects of medical experimentation.

Staff recruitment
Recruitment of staff during the year has raised the Faculty's complement to within reach of its establishment, although resignations late in the year again created several vacancies. It is hoped that these can be filled without serious delay, but the problem of competing against the legal profession for the employment of experienced and well-qualified barristers and solicitors continues to be one faced by all law schools.

Faculty of Science

Faculty relations
At the Faculty level there has been a continuation of the co-operation of students and staff in matters concerning policy and there has been no issue on which there has been any conflict. At the departmental level, departmental committee meetings were formalised and there is no evidence that communication between students, academic and general staff members was other than cordial. Although the student population is constantly changing, the attitudes of both students and staff augur well while the terms of reference of the committees guarantee safeguards against abuse by any members.

Student numbers increase
In 1975 there were increases in both postgraduate and undergraduate enrolments, measured in ‘weighted student units’ (WSU), the total Faculty WSU being 6.7% greater than those recorded in 1974. This may be contrasted with increases of 7.7% and 3.8% in total WSU for 1974 and 1973 respectively. There have been striking increases in total WSU in the Department of Forestry over the past two years which has imposed a burden on staff and other resources in the Department. The effects of this extra student load will be apparent in the Department for some time, indicating that there may be the need for some increases in the resources to the Department with associated redistributions in other areas of the Faculty. The increases in student numbers of course may be associated with the fact that this is a professional course and students are quite concerned about their employment prospects. As well as this, there is very great student concern with the environment as well as the ‘glamorous’ and possibly desirable prospect of practising a profession in the open, for example in wildlife management and national parks. The introduction of other courses which verge on the orbit of the forestry department in other universities, that is at the University of New England and in the Colleges of Advanced Education, may also influence the future development of Forestry. There has also been a large and not easy to explain increase in the number of
undergraduate WSU in the Department of Physics in 1975 (27% increase). This increase in student enrolments in this fundamental science may reflect a proper awareness on the part of students of the world energy crisis and may also represent some deflection of students into physics and away from geology where the employment prospects are not as good now as they were some little time ago.

The following are summary statements of some of the interesting research activities of the Faculty. These feature reports of work from three of the Faculty's departments—Physics, Zoology and Chemistry.

**Thermoluminescence**

Three years ago a technical facility for the determination of the age of ceramic and ceramic-like objects was established in the Department of Physics by Dr A. J. Mortlock. The technique employed utilises the phenomenon of thermoluminescence, which is the light given off by an object when heated due to the dissipation of a form of stored internal energy. In the case of a piece of fired pottery, for example, this energy is set to zero at the time the pottery is fired. Following this it builds up slowly but steadily until the present time is reached: the larger the interval involved, the greater will be the stored energy, and the stronger the thermoluminescent light pulse on heating a small sample of the pottery in the laboratory. The facility was set up initially to allow research work in physical archaeology to be performed. In particular it was hoped to help on-campus archaeologists in the unravelling of the prehistory of Australia and the South Western Pacific generally. The application of the thermoluminescence dating technique to new material was also anticipated. This has included ancient Aboriginal fire hearths from South Western New South Wales, and volcanic ash deposits from the Western Highlands of Papua New Guinea.

Art objects of the appropriate type may also be tested using the technique and work of this nature has flowed to the laboratory continuously since its establishment became known. Objects for testing come from Australia and overseas from private individuals, commercial art galleries, state museums, etc. At the time of writing approximately two inquiries are received a week. A fee is charged for this work which helps to support the facility, such as in the purchase of new equipment.

**Pregnancy in Tammar wallabies**

Many animals breed in response to changes in their environment. The Tammar wallaby has been the subject of extensive study in the Department of Zoology. The reproduction of this animal is unusual because conception may occur at any time during February to June but the completion of pregnancy is deferred until the summer solstice. Then, during a period of a few days, all the embryos reactivate and the young are born in late January or early February. This year Dr C. H. Tyndale-Biscoe and others have been investigating the nature of the signal that initiates development, and some of the changes that occur in the female and the embryo to bring this about.

The first task was to monitor the changes taking place at the summer solstice. A trip was made to Kangaroo Island in December to collect animals and the work has continued by laboratory experiments in which embryos were artificially reactivated by injecting the hormone, progesterone.
The connection of natural reactivation with the summer solstice is being tested and experiments with larger numbers are in progress to distinguish whether change in day-length or total amount of light initiates development. The external stimuli act on the embryo through the endocrine glands, in particular, the pituitary, and there is evidence that a pituitary hormone inhibits embryonic development. The work continues, in collaboration with CSIRO, and promises to throw new light on the relationship of hormones to embryonic development.

**Urban air pollution**

The problems of urban air pollution have generated a considerable body of legislation leading to often expensive controls on various emission sources. It is fair criticism to point out that these have had little effect on the problems of photochemical smog in urban airsheds.

In practice photochemical smog results from the emissions of hydrocarbons and nitric oxide which under the influence of solar radiation set up a sequence of gas phase reactions in the airshed to form new products of which many are harmful to humans, plant life, and materials. The sequence of reactions is sufficiently complex to make intuitive judgments difficult and in many cases erroneous. Thus implementation of a successful air management program requires the construction of an adequate model describing the airshed processes. The Department of Chemistry is currently carrying out research to this end.

The objectives of the model are to provide information on points such as—What concentrations of pollutants nitric oxide, nitrogen dioxide and hydrocarbons lead to photochemical episodes that exceed standards? What is the effect of proposed alternative policies such as limiting hydrocarbon emissions only, limiting hydrocarbons and nitric oxide emissions, limiting nitrogen oxides only? To what extent must these emissions be limited?

Part of the program of study involves measurement on a continuous basis of the ambient pollutants nitric oxide, nitrogen dioxide, hydrocarbons, carbon monoxide, and ozone. Equipment to measure the necessary data has been set up and measurements are in progress. The work has been supported to date by the Department of the Capital Territory and the Bureau of Transport Economics, Department of Transport.
University Academic Centres

Centre for Continuing Education (CCE)

There was a continuing high level of activity in the Centre in 1975, both as an extension agency and entrepreneur for short courses of the University, and by the Centre's academic group studying the theory and practice of continuing education, and applications of life-long education and the learning society in Australia.

The Centre continued to explore ways in which it might act as an extension agency also of the Canberra College of Advanced Education and a number of courses were conducted on that campus. Consideration of alternative models for the financing and administration of tertiary continuing education was initiated by the Centre within the University and with other institutions.

Nationally, the Centre's work gives it access to and relations with a wide variety of groups and sectors in Australian society—from the Poverty Inquiry to the New South Wales clubs, the top management and shop floors of major companies to the decentralised Aboriginal communities of the West Kimberleys and Arnhem Land, the national telecommunication inquiry to staff training in the public service—which informs its scholarship and tests its theoretical work from a number of perspectives. The Centre provided national leadership in several areas of scholarship in continuing education and it continued to contribute to international studies through work with relevant centres of learning overseas. Publications continued to expand both in titles and numbers sold. This is now a significant form of teaching-at-a-distance employed by the Centre. A total of 5553 volumes were distributed during 1975. The Centre also produces one international journal and one international newsletter on adult education.

Centre for Resource and Environmental Studies (CRES)

The year 1975 saw a highly significant growth in the Centre. At the start of the year the academic staff consisted of the Director only and by the end of the year had grown to include four other senior academics, but there was minimal development of support staff at the research fellow level. The Centre is non-departmental, but four sections can be identified, viz. resources policy, human ecology, applied systems analysis, and course co-ordination for the degree of Master of Environmental Studies (MEnvS) by course work which was established during the year.

Resources in Australia's Future

The most fully-developed project is 'Resources in Australia's Future'. In recent years natural resource issues have re-emerged as vital ones in both the domestic and the international scene. Increased concerns about prospective world food and energy supplies in particular are special aspects of general questions of resource availabilities in the light of the demands likely to arise from rapid world population increases and general economic growth.
The distribution of resource wealth and the terms on which trade in resources takes place internationally are one set of issues of particular importance to be studied at the Centre. A further set of technical and socio-economic issues arises out of the pressures for the exploitation of Australian resources to meet domestic requirements and the opportunities in international markets. Finally, in both the global context and in relation to domestic resource use, development and conservation, the relationship of resources to the environment has become of particular importance.

The Resources Project will look at the issues that arise out of these considerations, particularly as they affect public policy options and alternatives affecting natural resource use, development and trade. Because of the limited resources available to the Project, it will concentrate initially on policy issues likely to arise in the minerals and energy fields as they affect both Australia's domestic and international concerns. In addition to the issues of exhaustible resources that these sectors give rise to, the Project will be concerned with questions of renewable resources, concentrating initially on the agricultural sector, as these affect Australia's resources trade and particularly the international food problem.

In examining the issues of importance in these sectors a longer term view, upwards of 30 years, will necessarily be taken to try to define the kinds of issues and conflicts which would emerge and the policy options likely to be available. Subsequently, the specific areas of water, forestry, fisheries and land use for recreation and other competitive uses, and their interrelationships, will be fitted into the total natural resource picture as circumstances permit.

Computer Centre

Major considerations during the year have concerned three interlocking issues—the provision of distributed computer facilities via the campus link; the provision of adequate supporting services, with special regard to consulting and documentation, for such distributed facilities; and the provision of the computing power necessary to service them. In the general area of the provision of services, the appointment of the Computer Manager was a major event in the year, which was largely one of consolidation. The operation of the UNIVAC 1108 has been largely satisfactory but increasing pressure of work has tended to make even minor interruptions to the service have a very noticeable effect on job turn around. In the academic area the computer systems group has been brought up to full complement and now provides a more satisfactory research unit as well as offering a better consulting coverage in non-numeric areas including such subjects as computer operating system, information retrieval, and advanced programming languages. The applications group continues its work in numerical analysis, computational physics, and systems modelling. The work in simulation has led to an appreciation of certain directions in the development of programming languages. One result has been the acquisition of SIMULA 67, and there has been quite substantial interest generated in its use both for research and teaching. Five students supervised by members of the applications group completed PhD theses during 1975.

Humanities Research Centre (HRC)

Although the Centre began its activities in 1974, this year was the first year in which it was able to work at something approaching full pressure.
The Centre has continued to encourage work in a variety of fields within its overall theme ‘European Thought and Culture and their Influence Overseas’, and has given special attention to certain areas of study which are at present not strongly established in Australia, for example, interdisciplinary studies, music and fine arts. For the first few years the Centre will adopt a broad theme for special study in any one year and will organise visiting fellowships, conferences, lectures and exhibitions around this theme. The nominated theme will, however, not be exclusive as some visiting fellowships will continue to be available to those wishing to work in other fields of the humanities.

During the year the Centre had twelve visiting fellows for varying periods. Of these four came from within Australia, eight from overseas (Britain, USA, and Germany). They worked in various areas of European history, philosophy, literature, music and fine arts. Most of them visited other universities and institutions in Australia to deliver lectures and seminars and for discussions with members of relevant departments.

A conference on ‘Problems of Contemporary Biography’ was attended by 40 people including representatives from the Australian Dictionary of Biography. Over 60 people from Australian and New Zealand universities attended a three-day conference on ‘Cultural Developments in Australia in the 1890s’ held in the August vacation. A number of illustrated lunchtime lectures were held throughout the year: these were on aspects of art history, music, architecture and poetry.

**NHMRC Social Psychiatry Research Unit**
In 1975 the National Health and Medical Research Council established this Unit, accommodated at the University. The task of the Unit is to investigate those factors in the social environment which are related to mental illness. This is the first such Unit established in Australia.

The scientific staff consists of a psychiatrist, two clinical psychologists, two sociologists (one of whom is a medical graduate) and one research social worker. The following areas are being investigated: (i) Factors related to the incidence of attempted suicide (parasuicide) in Australia. A large study is being conducted to search for a typology of suicidal behaviour. This should lead to improved methods for treatment and prevention. (ii) The function of close personal relationships in preventing mental illness. This work requires a detailed examination of the relationship between psychiatric symptoms, adverse events in an individual's life, and the supporting resources available to him. Such a study claims to be of fundamental importance in the prevention of neurosis. (iii) The determinants of the prescription of psychotropic drugs. An examination is being conducted of those factors which lead to the consumption of such preparations. (iv) Stress and coronary heart disease.

Since this is a small Unit it is essential for its efficient operation that there be a number of common themes uniting the areas being investigated. These major rubrics are social interaction and illness behaviour.

The field work conducted by the investigators is within the hospitals, general practices and health centres of the ACT, as well as other parts of Australia. It is an ambition of the investigators that their work be of fairly immediate relevance to the major issues in the mental health of Australia.

**North Australia Research Unit (NARU)**
The devastation wrought by Cyclone Tracy in Darwin had a serious effect on the Unit’s
work. Nevertheless, both research and support staff continued to function, albeit under less than normal conditions.

Projects included a continuing study of the Northern Territory Legislative Assembly elections of 1974, amenities and facilities in northern Australian towns, the history of the Overland Telegraph Line, the new Aboriginal settlement at Djembere (near Mataranka), settlement history of the Katherine-Darwin region, survey of cyclone damage to local forest vegetation and the growing of rice in the Darwin district.

The first major project designed to involve several of the Unit's staff was also begun: a comprehensive account of tropical agriculture in North Australia. Planned as a three to five-year project, it will examine the numerous and varied attempts in their historical, cultural and technological contexts.

The first publication of the Unit, the *North Australia Research Directory*, was issued in November and work is well advanced on the second number of this annual publication.

**Office for Research in Academic Methods (ORAM)**

The Office was established in March 1975 to encourage an interest by the academic staff in the improvement of teaching and learning in the University; to promote investigations of teaching programs and methods; and to collect and analyse information useful in planning and decision-making, particularly with respect to the allocation and effective use of resources.

During its first nine months ORAM worked towards the achievement of these objectives through research projects, seminars on university teaching, a conference on assessment, consultations with individual lecturers, evaluation of courses, and meetings with departments and faculties. A resource collection was established of recent articles and books on university teaching. The major research project is an on-going investigation of reasons why students of this University discontinue their studies. This study is expected to grow so as to include an examination of student selection procedures and the relationship between course organisation and teaching methods, student work loads, and methods of assessment.

During the latter part of 1975 work was carried out on the feasibility of establishing an undergraduate Medical School in the ACT. In view of the shortage of doctors in both urban and rural community practice, the primary educational goal of the proposals under construction is to produce a doctor who has the motivation and professional competence to function as an effective general practitioner and who is adequately prepared to further his education and training.

**Survey Research Centre (SRC)**

The Survey Research Centre commenced operations in 1974 initially to provide a consultation service on the design, conduct, analysis and reporting of surveys; teaching and training in survey methodology; research into sampling and other survey techniques; and liaison with other survey organisations, especially the Bureau of Statistics. Approximately 120 hours of consultation services were supplied to staff members, postgraduate students and outside bodies during 1975. This was 20% above the level of the previous year. Largely as a result of a visit overseas by the Director, a proposal is now being considered for the establishment overseas of an archive of Australian social science data sets.
The Library
In 1975 it was decided to establish a major new library building for the University. This is a significant development. Instead of extensions being made to the present Menzies Building, it has been agreed that a new building will be placed on a site between the Chancelry and the Chifley Building, eventually to be linked with the Chifley Building to form a central library complex. The new building will house the research collections in the social sciences and humanities; the Chifley Building will provide mainly undergraduate services; and the Menzies Building will become the Asian Studies Library.

There were significant improvements during the year in undergraduate services, with a reorganisation of the Chifley Building to provide a new centre for Reserve Books and Audio-Visual materials, and the introduction of new borrowing and access regulations which give all undergraduates the right of access to research collections housed in the Menzies Building.

The new Life Sciences Library was opened at the end of 1975. This will play an important role in the total science resources and information services of the University Library system.

In the Asian Studies Division there has been continued strengthening of contemporary Chinese materials, and Chinese periodical holdings have more than trebled in the period 1973 to 1975. Systematic coverage of Thai and Malaysian publications has been established, and attempts have been made to improve holdings in Vietnamese, in response to increased research activity in this field.

The first phase of the Library's automation program was successfully completed, and the Acquisitions and Cataloguing Departments reorganised. The effect was most strikingly apparent in Acquisitions, where almost all delays in ordering and processing have been eliminated. The full effects will be attained in 1976 when it is expected that cataloguing backlogs will be overcome and all new books processed rapidly. By the end of 1975, total library holdings exceeded 800,000 volumes. The main problem has been the rising cost of publications. A sample analysis of serial subscriptions revealed a cost increase of the order of 30%. The increase in monograph costs, although not as high as serials, also ran at an alarming rate.

Instructional Resources Unit (IRU)
The Unit was established in July 1975 and incorporates the existing Photographic Services (Visual Aids) and Media Services (Language Laboratories).

Its primary objective is, with ORAM, to provide facilities for increasing the effectiveness of teaching and learning by the production and provision of materials appropriate to the particular needs of departments and research schools. The Unit also works in close co-operation with the Library in the acquisition, organisation and
retrieval of non-print material available to staff and students for revision, enrichment and, eventually, for self-instructional purposes.

With the establishment of IRU, those functions of the Media Services section, not essential to the needs of the language departments, have been co-ordinated into new sound and television production facilities in the basement area of the Chifley Library. These have been designed to make full use of recently developed low-cost colour cameras and video recorders with editing facilities. The technical quality of the equipment is ideally suited to educational purposes and is matched by simplified control systems to enable easy operation by as many users as possible. The fixed installation supplements and extends the recommended and standardised equipment in use in other departments of the University, enabling ‘on the spot’ recordings to be edited and copied effectively without expensive duplication of sophisticated equipment. Production and technical assistance is available from the Unit to assist departments in the Faculties and the Research Schools.

The Unit has also undertaken various other functions such as the recording of lectures (with tapes available in the Library the following morning), installations and rewiring in lecture theatres and research laboratories, and advising on audio-visual installations.

At present language and other courses are being copied for private study access and it is expected that 1000 cassette programs will be added to the Chifley Library collection by March 1976. Planning of video tape training segments is being undertaken for science departments and production will commence immediately the studio area is completed.

**Australian National University Press**

In 1975 the Press published 22 new titles, reprinted six others and, continuing its role of service to University departments, distributed 20 new titles on their behalf.

The number of books published by the Press in 1975 was lower than in previous years: in part because of delays in production; in part because staff has further decreased—the former Director returned to the United States in April—and no new staff has been appointed; in part because of deliberate reduction in the number of titles published due to financial constraints.

The books published continue the range and diversity of the Press’ lists of previous years. They include works on education and law, biology and geology, literature and biography, Aboriginal studies and migration, and Asian and Pacific history. Its most unusual book, *Djugurba: Tales from the Spirit Time*, a collection of Aboriginal myths written and illustrated by a group of Aborigines of full descent, has also been most successful. It was highly commended by the Children’s Book Council, has been reprinted and is now issued in a second edition, and has sold in a large edition to a North American publisher.

During the year the Press began experiments in co-publication involving the sharing of editorial and production expenses for selected titles which promise to reduce cost and prices, but the effects will not be known until the first of these titles appear in 1976. It has also experimented for a considerable number of its books in computer typesetting with, it believes, little detriment to the quality of the books and significant cost advantages.
University House
University House celebrated its twenty-first anniversary this year, and an increasing proportion of its resources is being devoted to a continuing program of modernisation, replacement of obsolete equipment, and the refurbishing and refurnishing of rooms.

It continued throughout 1975 to serve the University, and to some extent the Canberra community. As a residential college, the House accommodated between 50 and 60 graduate students and about the same number of resident academic staff and long-term visitors to the University. In addition, many guests were accommodated for short periods. Altogether, academics from 138 universities in 28 countries stayed at University House during the year. Its regular Wednesday House Dinners have enabled residents, members, and visitors from all over the world to meet in pleasant and stimulating surroundings.

In its role as a graduate club, University House increased its membership during the year to 1342 and offered a steadily growing range of services and amenities. A new air-conditioned cellar restaurant was opened, financed wholly from regular income, as well as a small supermarket, the Buttery, as a service to residents and members.

As a cultural centre, University House was the venue for the Arts Council’s winter poetry readings and for a variety of musical activities. The House presented 18 public concerts in the course of the year by artists from Canberra, interstate, and five overseas countries. Six of these concerts were recorded by the Australian Broadcasting Commission, and support was also received from the Music Board of the Australia Council, several embassies, and the Goethe Institute. The concerts included two programs of electronic music, a recital of Schubert songs, a Monteverdi opera, and an outstanding performance of Chopin’s etudes and preludes by Fou Ts’ong, attended by a capacity audience of 400 people.

University Counselling Centre
The Centre has four units—Careers and Appointments, Communication and Study Skills, Counselling, and Part-time Studies. In 1975 the activities of both the Communication and Study Skills unit and the Part-time Studies unit were particularly well received. Both are relatively new, and in most respects unique in the Australian tertiary education context. Despite severa, staff changes the first developed and successfully operated essay writing, reading general study skills and examination preparation courses as well as offering a record number of individual interviews. Other universities and colleges have noted its work and are planning to mount similar programs.

Considerable attention began to be given to the work of the Part-time Studies unit by academic, administrative, and student bodies at the University. Especially encouraging was the praise given in the Sixth Report of the Universities Commission with its recommendation that monies be given to all universities to engage in similar programs.

University Health Service
Despite the introduction of Medibank in July 1975, and the availability of alternative no-charge medical facilities the work of the University Health Service continued to grow in proportion to the 6% increase in full-time student numbers. Thus there was a 10% increase in the numbers of persons attending and a 7% increase in consultation
rates compared with 1974, over two-thirds of all full-time students visiting the health centre at least once during the year. Women students were relatively over-represented, while students from overseas and local part-time students were relatively under-represented.

Continued emphasis was placed on the preventive aspects of health care, including the development of self-reliance towards the positive aspects of health and well-being rather than dependence on the traditional medical preoccupation with investigation and treatment of disease. Long-term justification for this approach to behaviour modification rests on the fact that expectation of life in Australia has hardly changed over the past quarter-century despite dramatic developments in medical technology, escalating costs and marked increases in prescribing rates, particularly for psychotropic drugs.

University Union
Financially the Union had its best year in 1975. Early figures indicate that the deficits of 1973 and 1974 have been more than offset. Much of the improvement was due to the first fee increase in the ten years of Union operations. To ensure that further lags do not develop in future years, a formula for fee adjustment has been determined. Other income came from trading operations (where turnover now exceeds $500,000), though, when the proportion of administrative costs attributable to trading is deducted, these are essentially non-profit making. Overall, the Union feels that it has now established the financially secure foundations that it has been seeking for several years: this will enable it to be more financially independent of the University. As a consequence in 1976 at the request of the Union all salary subventions will cease.

The improved financial position helped to pave the way for further physical improvements. In 1975 the Union beer gardens were constructed (to open in 1976), the shop was enlarged, and some minor alterations in the Refectory gave improved access and made for easier control. By the end of the year plans were complete for a bar terrace which would greatly improve storage facilities, and a redesign of the ground floor to provide for a lounge/coffee bar. Both projects should be completed in 1976.

Food services were less affected by inflation than had been feared. An effort was made to serve better quality food as well as keeping available some cheaper dishes of reasonable quality. Increased sales (in real terms) seem to have justified this policy. Non-institutional catering expanded and the Union is seeking to find ways to develop a ‘conference’ trade with University co-operation.

The Union retained most of its staff through 1975 which will lead to benefits in the future through increasing co-operation and greater knowledge of the organisation. It has proved difficult to recruit and to retain students on the Board and its committees which is unfortunate. Nonetheless, the Union successfully maintained its role as the centre of student activity in the University.
1975 was the last year of the 1973-75 triennium and the building effort during the year was directed towards the completion of projects for which funds had been provided in that triennium.

After a protracted construction period exacerbated by unsettled conditions in the building industry, by record bad weather and by shortages of material, the A. D. Hope Building was completed in its planned form by mid-year and occupied by the Humanities Research Centre and the Departments of Prehistory and Anthropology, Classics, and English. The Universities Commission suggested that a shelled area on the ground floor should be completed as part of the 1973-75 program rather than in the subsequent triennium as had been sought in the submission for 1976-78, but by the time agreement had been reached on the disposition of space and tender documents completed, the approval to proceed was withdrawn in accordance with the general prohibition on new works as a consequence of the Budget in August.

The Life Sciences Library Building designed to provide accommodation for the life sciences collection of the University Library, the Centre for Resource and Environmental Studies, a suite for the Dean of the Faculty of Science, and a laboratory for 60 undergraduate students in the life sciences disciplines in the Faculty of Science, was completed and occupied in the latter part of the year.

The building for the Department of Solid State Physics, Research School of Physical Sciences, the Computer Centre, and a 230-seat theatre progressed during the year, but because of conditions in the building industry and delays caused by inclement weather, it will be finished in early 1976 rather than in late 1975 as at first planned.

A grant of $250,000 was made as part of the 1973-75 capital works funding as a contribution towards the cost of building the Arts Centre. This, together with the gift from Mr F. Duval, a contribution by students and other funds, still fell considerably short of the full need. However, it was thought wise to press ahead with construction as rapidly as possible to the limit of available funds. Delay while additional funds were sought could only result in erosion of the value of the money in hand. The first phase which will bring the building to the point of a weather-tight shell but without much internal finishing is expected to be complete before the middle of 1976. Further progress will depend on the availability of funds.

Development of the site continued throughout the year. Notable projects completed were flood mitigation works in the lower reaches of Sullivans Creek and improvements to the landscaping in the vicinity of the lower pond, the further 'greening' of University Avenue by converting it to landscaping down to its junction with Sullivans Creek Road, and improvements to the Entrance Court.
Under the Universities Commission's 'green light' procedure planning has proceeded for a library extension and student residential accommodation initially for 1976–78 and now for 1977–79. During the year Council approved the siting between the Chancelry and Chancelry Annex of a new central library building.

Close liaison has been maintained with the National Capital Development Commission on planning problems of mutual concern particularly in the area between the University's eastern boundary and the City.
The Council

The Council met five times during the year in March, May, July, September and November. The Chancellor presided over all meetings.

Members of the Council as at 31 December 1975

**Members Ex Officio**
Herbert Cole Coombs, AC, MA *WAust.*, PhD *Lond.*, HonDLitt *WAust.*, HonLLD *Melb.*, Syd. & ANU, FAHA, FASSA, FAA—Chancellor
The Honourable Sir Anthony (Frank) Mason, KBE, BA LLB *Syd.*—Pro-Chancellor
Donald Anthony Low, MA DPhil *Oxon.*, FAHA—Vice-Chancellor
David Noel Ferguson Dunbar, MSc *NZ*, PhD *Melb.*—Deputy Vice-Chancellor
Frank William Ernest Gibson, DPhil *Oxon.*, DSc *Melb.*, FAA—Deputy Chairman of the Board of the Institute of Advanced Studies
Lindsay Dixon Pryor, DSc *Adel.*—Deputy Chairman of the Board of the School of General Studies
Elizabeth O'Brien—President of the Australian National University Students' Association

**Members elected by the Senate**
Mervyn George Everett, QC, BA LLB *Tas.*
Peter Elliot Rae, BA LLB *Tas.*

**Members elected by the House of Representatives**
Richard Emanuel Klugman, BSc MB BS *Syd.*
Michael John Randal MacKellar, BScAgr *Syd.*, BA *Oxon.*, MP

**Members appointed by the Governor-General**
Richard Roderick Andrew, MD BS *Melb.*, FRCP, FRACP
Maurice Hearne Byers, QC, LLB *Syd.*
Enid Campbell, LLB BEc *Tas.*, PhD *Duke*
George Austin Colman
Geoffrey Piers Henry Dutton, BA *Oxon.*
Leonard Thomas Hinde, FIA
Thomas Fulton Coleman Lawrence, BSc BE *Syd.*, FRAeS
Judith Arundell Wright McKinney, DLitt *Q'ld & NE*, FAHA
John Colinton Moore, BCom *Q'ld*, AAUQ
John Mervyn Wark, BA *Syd.*
Sir Frederick (William George) White, KBE, MSc *NZ*, PhD *Cantab.*, HonDSc *Monash*, ANU & P&NG, FAA, FRS
Arthur John Russel Yencken, MA *Cantab.*

**Members chosen by Heads of the Research Schools in the Institute of Advanced Studies**
Robert Street, PhD DSc *Lond.*, FAIP, FInstP
Alexander John Youngson, MA *Aberd.* & *Camb.*, DLitt *Aberd.*

**Members chosen from among the Deans of the Faculties in the School of General Studies**
William Stanley Ramson, MA *NZ*, PhD *Syd.*
Douglas John Whalan, LLM NZ, PhD Otago

**Member elected by the Professors in the Institute of Advanced Studies**
George Adrian Horridge, MA PhD ScD Cantab., FAA, FRS

**Member elected by the Professors in the School of General Studies**
Liu Ts’un-yan, BA Peking, BA PhD DLit Lond., DipEd HK, HonDLitt Teung-Nam, FAHA

**Members elected by the Non-Professorial Academic Staff in the Institute of Advanced Studies**
Norma Ruth McArthur, BA Melb., PhD Lond. & ANU
Stuart Ross Taylor, MA Oxon., MSc NZ, PhD Indiana

**Members elected by the Non-Professorial Academic Staff in the School of General Studies**
Beryl Marie Rawson, BA Q’ld, MA PhD Bryn Mawr Coll.

Douglas William Smith, BCom LLB Melb.

**Member elected by the Research Students**
Kenneth James Newcombe, BSc Tas.

**Members elected by the Undergraduate Students**
Robert Leslie Arden
Jean Mulholland

**Members elected by Convocation**
Bettina Mary Arndt, MPsydh NSW, BSc
Sir John (Grenfell) Crawford, CBE, MEC Syd., HonDSc N’cle(NSW), HonDEc NE, HonDScEcon Syd., Hon LLD Tas. & P&NG, FAIAS, FASSA
Richard Christopher Refshauge, BA LLB
Elizabeth Anne Reid, BPhil Oxon., BA

**Members appointed by the Council**
Roy Douglas Wright, MB MS DSc Melb., DSc, FRACP
One vacancy

**Secretary to the Council**
The Registrar
Publications

Research School of Biological Sciences

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Developmental Biology


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Degrees conferred

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Alley, E. J.
An, V.-T.
Anderson, D. E.
Anderson, D. R.
Annett, N. D.
Baily, M. F.
Barley, L. A.
Barnes, C. J.
Bassett, W. R.
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Blowes, M. E.
Blyton, J. A.
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Wilson, G. J.  
Woodhouse, M.  
Zubrzycki, A. M.

Bachelor of Arts degree with honours

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Anderson, J. H.  
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Bennett, M. S.  
Bisset, A. J.  
Bradshaw, M. P.  
Bramley, G. M.  
Brooks, D. G.  
Buchdahl, T. R.  
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Clynes, A. J.  
Craig, J. A. S.  
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Farrow, J. A.  
Grant, N. R. L.  
Grason, I. W.  
Hadley, J. E.  
Hartley, P. R.  
Heath, L. M.  
Henderson, R. A.  
Hort, L. K.  
King, D. J.  
Latham, L. M. J.  
McCausland, S. K.  
McDonald, M. A.  
McEwin, K. A.  
McIntosh, M. B.  
Mellor, M. J.  
Moloney, J. C. F.  
Pentony, S. J.  
Pickering, A. M.  
Pidgeon, S. J.  
Quinn, A. G.  
Roe, J.  
Russell, J. A.  
Schuman, P. M.  
Simpson, J. H.  
Slade, C. M.  
Stemp, P. J.  
Summers, A. M.  
Tenenbaum, B.  
Tilley, L. U.  
Topham, R. D. N.  
Trudinger, P. L.  
Tully, W. J.  
Turner, J. M.  
Walls, C. S. J.  
Williams, G. J.  
Wilson, G. J.

Master of Arts

Butcher, P. R.  
Chan, A. J.  
Fielding, R. J.  
Hamill, I.  
Hayman, R. I.  
Hem’son, G. J.  
Jory, C. H.  
Kriegler, R. J.  
Livingstone, A.  
McCalman, I. D.  
McLennan, J. P.  
McMahon, A. M.  
Murray, D. R.  
Nash, D. G.  
Perks, E. M.  
Pflugradt, J. A. K.  
Powell, G. T.  
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## Bachelor of Arts (Asian Studies)

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## Master of Arts (Asian Studies)

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## Bachelor of Economics

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Bachelor of Science

Adamson, J.
Adomeit, E. M.
Amery, R. M.
Anderson, C.
Atrens, K.
Barrett, M. G.
Beadman, W. J.
Boston, J. R.
Brock, A. M.
Brooke, A. A.
Bryce, N. P.
Burgess, M. P.
Burkitt, G. N.
Burmester, N. F.
Carmody, J. L.
Carter, A. J.
Chmura, J. T.
Chown, R. W.
Clark, P. P.
Coombes, N. E.
Currie, K. W.
Daw, G. A.
Duus, B.
Dyer, R. P.
Edstein, M. D.
Elliston, M. A.
Erpic, T.
Evans, W. R.
Flack, S. M.
Fortowski, D. B. J.
Fuchsberger, K. H.
Gargano, P. J. P.
Glavine, I. J.
Goddard, A. P.
Gordon, F. J.
Green, S. M.
Grist, M. E.
Gulson, V. M.
Hamilton, J. R.
Hansen, T. R.
Hickman, P. G.
Hillman, S. P.
Hills, H. M.
Hoffmann, J. K.
Jardine, J. C.
Jarvis, J. A.
Jennison, B. C.
Kaylock, D. B.
Kaylock, P. M.
Kohler, P. F.
Lakatosh, I.
Langsford, P. M.
Lewis, C. J.
 Losewitz, J. V.
Lyons, P. J.
McCabe, C. M.
MacKillop, R. C.
Maclean, C. C.
McNally, M.
McWilliam, G. P.
Madden, J.
Marks, T. J.
Martin, W. A.
Ng, K. W.
Ng, S. N.
Nicholson, P. O.
Nilon, P. J.
Padovan, R. J.
Palazzi, S. C.
Parsons, G. L.
Patterson, W. S.
Pearson, I. M.
Pegram, R. W.
Penman, K. R.
Pepperell, D. R.
Pinkus, Z.
Pisarevsky, A.
Podger, G. I.
Rajah, T.
Riggs, L. M.
Roberts, P. A. L.
Ross, K. J.
Ryan, A.
Ryan, H. R.
Samad, S. A.
Sanders, N. R.
Santer, M. S.
Scott, G. R.
Sherriff, J. L.
Sirimongkolrat, P.
Spencer, R. R. P.
Streicher, I. M.
Tam, D. K. H.
Tee, A. K.
Tremain, V. A.
Van Rooy, W. S.
Wannan, J. A.
Williams, B.
Wilson, S. G.
Young, S. J.

Bachelor of Science degree with honours

Aldons, J. C.
Angove, N. J. P.
Atkins, B. N.
Barker, E. L.
Beams, S. D.
Bell, J. M.
Blakers, R. G.
Carmody, J. M.
Christie, M. J.
Clark, J. M.
Clugston, A. C.
Colwell, J. B.
Dorman, D. M.
Drake, G. W.
Edwards, B. P.
Fayle, D. R. H.
Fewell, M. P.
Freckelton, F. A.
Gibbings, S. A.
Gibson, B. G.
Gibson, W. J.
Hardham, A. R.
Hawking, D. A.
Ho, K.-P.
Hogarth, K. A.
Howell, J. R.
Hutchison, G. I.
Jones, M. M.
Kennard, J. M.
Kennewell, P. J.
King, I. M.
Laird, A. J.
Lean, J. L.
Lesh, R. H.
Loudon, B. J.
Mathews, A. P.
Miles, J. T.
Monks, S. E. M.
O'Connor, D. J.
Phillips, R. J.
Pillans, B. J.
Platz, K. M.
Pollard, K. M.
Preston, A. P.
Puckle, J. L.
Ristivojevic, M.
Rowell, A. M.
Stoneham, R. J.
Summers, K. M.
Thompson, R. S.
Thurgate, S. M.
Van Leeuwen, E. H.
Wellard, G. A.
Windsor, N. J.
Woolnough, J. A.
Yang, F. Y.

Bachelor of Science (Forestry)

Ahmad, A. J. B. H.
Body, C. R.
Collins, E. V.
Corbett, R. J.
Ellis, M. R.
Elsey, I. J.
Francis, P. J.
Fussell, R. G.
Hanna, D. B.
Harris, M. J.
Harvey, D. C.
Hilder, D. L.
Jamieison, D. T.
Lavis, J. S.
Ledu, W. A.
Mainey, P. F.
Moore, R. W.
Morgan, D. C.
Munnings, P. V.
Murphy, G. E.
Pegler, R. J.
Richardson, M.
Rolley, E. R.
Rostron, C. J.
Shepherd, C. S.
Stewart, L. G.
Stringer, D. R.
Tonkin, M. G.
Vear, K. R.
Vogt, D. A.
Wilson, K. E.
## Bachelor of Science (Forestry) degree with honours

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## Master of Science

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## Doctor of Philosophy

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In 1975 the University began a program aimed at encouraging its Convocation members to involve themselves in the life of the University and to become its links with the community. Inaugural Convocation dinner meetings were held in all Australian capitals and in Armidale, and the first Convocation luncheon meetings were held in Canberra. Emeritus Professor Manning Clark addresses the Convocation dinner in Adelaide at which the Governor of South Australia, Sir Mark Oliphant—a member of Convocation—and Lady Oliphant were present. Professor Clark also spoke at the Perth dinner. The scene in the Hall of University House for the first Canberra Convocation luncheon at which Professor Geoffrey Sawer spoke on 'The Constitutional Crisis'.
The central area of the University’s 130-hectare landscape site photographed in August 1975 from its southern, Lake Burley Griffin, side over the Acton peninsula.
Mr Rex Jones, senior technical officer in the University’s Computer Centre joins the 800 pairs of wires for the campus computer link which was installed in 1975. The 3km circuit passes close to most buildings housing departments which have a current or potential need for access to the University’s central computing resources.

The A.D. Hope Building, named after the distinguished poet and former Head of the University’s Department of English, was occupied in 1975 by the Departments of Prehistory and Anthropology, Classics, English and the Humanities Research Centre. The building has display areas for exhibits of interest to students and a wider public.

The Life Sciences Library Building, completed and occupied in 1975, provides accommodation for the life sciences collection of the University Library, the Centre for Resource and Environmental Studies, laboratories for undergraduate students in life sciences disciplines, and an office for the Dean of the Faculty of Science.
Professor Anthony Low, who became the University’s sixth Vice-Chancellor on 9 May 1975, succeeding Dr R.M. Williams, who returned to New Zealand on his appointment as Chairman of the State Services Commission.

Professor Low was formerly Director of the Research School of Pacific Studies and from 1959-64, Fellow and then Senior Fellow in History in the University’s Research School of Social Sciences. Professor P.A. Moran and Professor R.O. Slatyer, who were elected to Fellowships of the Royal Society of London in March 1975. Professor Moran is Head of the Department of Statistics, Research School of Social Sciences, and Professor Slatyer is Head of the Department of Environmental Biology, Research School of Biological Sciences.

Professor Wang Gungwu, Head of the Department of Far Eastern History since 1968, who was appointed Director of the Research School of Pacific Studies on 14 November 1975, following Professor Low’s appointment to the Vice-Chancellorship.
11 A delegation of Soviet scientists visited the University’s Research School of Earth Sciences in June 1975. The Director of the School, Professor A.L. Hales, watches as Dr R.C. Liebermann demonstrates a diamond anvil pressure cell for the Soviet delegation: (l-r) Academicians A.A. Geodelkaya, B.S. Sokolov and Y.D. Bulange of the USSR Academy of Sciences.

12 The High Commissioner of Papua New Guinea, Mr Oala Oala-Rurua (centre) who opened the exhibition of contemporary Papua New Guinea art in Melville Hall on 15 September 1975 to mark Papua New Guinea’s first day of independence with the Vice-Chancellor, Professor Low, and the Head of the Department of Prehistory and Anthropology, Professor Anthony Forge who organised the exhibition. 13 A South Coast farmer and postmistress, Miss Joy London, has given the University 348 hectares of land at Kio­loa known as the Edith and Joy London Foundation, to establish a rural field station for long-term environmental observation and research by staff and students in botany, forestry, geography, geology, marine biology, prehistory, zoology and other fields. Miss London is seen handing over the Deed of Conveyance to the University’s Acting Vice-Chancellor, Professor D.N.F. Dunbar, at a gathering in Kio­loa on 1 March 1975. With them are (l-r) Miss London’s accountant, Mr Pat Johnston, the University Secretary, Mr Ross Höhnen, and Miss London’s legal adviser, Mr Bill Duke.
The University's public lectures program in 1975 attracted large audiences. More than 400 people were present in the H.C. Coombs Lecture Theatre for the lecture on William Shakespeare in the 'Reappraisals' series given by Professor S.L. Goldberg of the University of Melbourne (r. foreground).

At the Australia 75 Science Exhibition in March, Mr Ron Lampert, senior research fellow in the Department of Prehistory, Research School of Pacific Studies, demonstrates for students of the Argyle School, Goulburn, how Aborigines knapped stone to make tools.

A model of an influenza virus particle prepared for the Australia 75 Science Exhibition by the John Curtin School of Medical Research workshop to illustrate research in the Department of Microbiology on Port Chalmers Type A Virus, which was responsible for an influenza epidemic in 1974.
The control room of the colour television studio in the Instructional Resources Unit is equipped with facilities for production and editing which many University departments are using to meet changing and specialised requirements for teaching and research.

Student, Joyce Dexter, in one of the Department of Zoology's study carrels for audio-tutorial learning. Similar in principle to language laboratories, the carrels allow students to work individually and largely at their own pace.
19 The Research Students' Association set up a Family Day Care Scheme in 1975 offering an alternative to and helping to ease pressure on two existing schemes—Parents on Campus Creche and University Child Care Centre. Pictured is Mrs Gillian Cox, one of the day care mothers with the RSA Scheme.

20 The Cottage in Balmain Crescent made available to the Students' Association by the University where students under stress can find refuge and someone to talk to, or just to relax for a few hours or longer.

21 In April 1975, following a meeting in Union Court called by the Students' Association students decided to raise immediately with the Dean of the Faculty of Economics several education policy issues. The Dean, Professor R.D. Terrell (l) met with a delegation of 80 students to discuss student representation on departmental committees and student participation in determining course content.
Prizewinners

The University Medal
Graeme Arthur Chandler  Pure Mathematics
Philip John Charles Chappell  Chemistry
Simon Nicholas Haines  English
Krisorn Jittorntrum  Applied Mathematics
David Ian Kelly  Asian Civilizations
Charles Robert Leedman  Physics
Peter Charles Menzies  Philosophy
Jill Rosemary Ovington  Japanese
Alister John Richards  Zoology
Matthew Allen Simpson  Theoretical Physics
Richard Stephen Volpato  Sociology

The Alliance Française de Canberra Prizes
Jeanette Rae Tremayne  French Language & Literature I
Linda Margaret Meech  French Language & Literature III
Lyn Banbrook  French Language & Literature IV

The A. N. Hambly Prize for Chemistry
David Alwyn Charles Evans

The Ansett Air and Space Law Prize
John Gregory Sarpa

The Australian-American Association Prize for American Studies
Margaret Veronica McWilliams  American History

The Australian Capital Territory Bar Association Prize
Susanne Patricia Tongue

The Australian Computer Society Prize
Elizabeth Jane Wettenhall

The Australian Federation of University Women—Australian Capital Territory Prize
Celia Florence Conlon

The Australian Institute of Physics Prize
Graeme Hayward Smith

The Australian Psychological Society Prize
Kathleen Margaret Griffiths

Australian Society of Accountants’ Prize
Brian Tracey Kimball

The B. C. Meagher Prize for Commonwealth Constitutional Law
Joanna Robyn Featherston

The CSR Chemicals Prize
Philip John Charles Chappell

The Commonwealth Forestry Bureau Book Prize
Stephen John Toms

The E. A. Lyall Memorial Prize
Not awarded

The Economic Society of Australia and New Zealand (Canberra Branch) Prizes
John Charles Quiggin  Economics II

The Freehill, Hollingdale and Page Prize for Commercial Studies
Jeffrey Edward Faure  shared
Raymond Francis Elder

The Geological Society of Australia Prize
Alan Butterfield

The George Knowles Memorial Prize
Peter John Parsons

The Goethe Society Prizes
Sibylle Irmgard Krieger  German Language & Literature I
Iain Murray Johnstone  German Language & Literature II
Anton Paul Muller  German Language & Literature III

The Hanna Neumann Prizes for Pure Mathematics
Adrian John Baddeley  Pure Mathematics III
Graeme Arthur Chandler  Pure Mathematics IV
Helmut Erich Simon  Pure Mathematics IV
Robyn Gaye Wansbrough 共享
Nicholas Charles Wormald

The Institute of Advanced Studies Prizes in Economic History
Anne Julie McLean  Economic History I
Laurence Paul O’Mara  Economic History I
Gregory Richard Moore  Economic History II
Phillipe Charles Ingram  Economic History III
Ian Christopher Monday 共享

J. G. Crawford Prizes
Gordon Stuart Lister
Ngo Van Long

The Lady Isaacs’ Prize
Keith Greville Willey

The Law Society of the Australian Capital Territory Prize for Contracts
Peter Michael Wood

The Leslie Holdsworth Allen Memorial Prize
Simon Nicolas Haines

The Marie Halford Memorial Prize
Anne Stirling Hopkins
Louise Josephine Fitzpatrick 共享

The Permanent Trustee Company (Canberra) Limited Prizes
Hilary Ruth Penfold  Trusts
Peter John Parsons  Property II
Priscilla Fairfield Bok Prize
Bronwyn Anne Adams
Yuriko Yamamuro

The Professional Officers' Association Prizes
Nicholas John Short  Zoology A01
Stephen Mark White  Physics A01

Rachel Dorph Memorial Prize
Ian Ross Saunders

The Ramsay Prize
Ian Norman Walter Jennings

The Royal Australian Chemical Institute Prize
Ian Allen Watson

The Royal Institute of Public Administration Prize
Not awarded

The Scandinavian-Australian Society Prizes
Raymond Laurence Field  Swedish
Geoffrey John See  Old Norse

Schlich Memorial Trust Prize
Morris Bruce Foster

The Shell Company Prizes
Ian Edward Davidson
Phillip Anthony Hanratty  Economics (shared)

William Roy Young  Science

The Statistical Society of Australia (Canberra Branch) Prizes
Iain Murray Johnstone  Statistics BotH & BosH
Adrian John Baddeley  Statistics CotH & CozH

The Supreme Court Judges' Prize
Margaret Therese Stone
Susanne Patricia Tongue

The Tillyard Prize
Allan Gordon Murray-Jones
Huw Price

The Timbend Utilization Prize
Andrew John Warner

The Trustees, Executors (Canberra) Limited Prize
John Michael Slattery

The United Commercial Travellers' Association Prize
Ian Malcolm McKenzie

The W. B. Clarke Prize in Geology
William Joseph Collins
University Lectures 1975
Prof. Sir Isaiah Berlin
The Romantic Revolution in Politics and Ethics 1, 8, 15 October
'Faces in the Crowd' series
Prof. George Rudé
The 'pre-industrial' protestors 5 March
The changing face of protest 12 March
Criminals and protesters 19 March
Prof. J. A. Leith
The terror in revolutionary France: prototype of a totalitarian state? 26 March
'Reappraisals' series
Prof. R. W. V. Elliott
Geoffrey Chaucer 28 May
Prof. S. Goldberg
William Shakespeare 4 June
Mr R. M. Wilding
John Milton 11 June
Dr R. F. Brissenden
Jonathan Swift 18 June

Prof. J. P. Hardy
Samuel Johnson 9 July
Prof. C. I. E. Donaldson
Lord Byron 16 July
Prof. W. Milgate
Charles Dickens 23 July
Prof. A. M. Gibbs
George Bernard Shaw 30 July
Morrison lectures 1975
Prof. Yi-Fu Tuan
Chinese attitudes to nature: idea and reality 3 September
John Curtin memorial lecture 1975
Hon. E. G. Whitlam
Government of the people, for the people—by the People's House 29 October
Single public lectures
Prof. T. Parsons
The future of higher education 29 April
H.E. Mr S. S. Ramphal
Towards a new international economic order 18 September
Senior staff appointments and promotions

Institute of Advanced Studies
Dr E. P. Adams Senior Fellow in Immunology, formerly Senior Research Fellow.
Dr P. R. Andrews Fellow in Physical Biochemistry, formerly Research Fellow.
Dr E. E. Ball Fellow in Neurobiology, formerly Research Fellow.
Dr C. H. Barlow Senior Fellow in Economics, Research School of Pacific Studies, formerly Senior Research Fellow.
Dr R. J. Baxter Professorial Fellow in Theoretical Physics, formerly Senior Fellow.
Dr R. V. Blanden Senior Fellow in Microbiology, formerly Fellow.
Professor A. L. Burns Head of Centre for Foreign Politics (Western Europe), formerly Professor in Political Science.
Dr G. D. Clark-Walker Fellow in Genetics, formerly Senior Research Fellow in Developmental Biology.
Dr E. H. Creaser Head of Protein Biochemistry Unit, formerly Senior Fellow in Genetics Macromolecular Analysis Unit.
Dr F. E. Emery Senior Research Fellow in Centre for Continuing Education, formerly Senior Research Fellow in Sociology.
Dr D. J. Faulkner Senior Fellow in Astronomy, formerly Fellow.
Mr E. K. Fisk Executive Director of Centre for Development Studies, formerly Professorial Fellow in Economics, Research School of Pacific Studies.
Dr J. J. Fox Professorial Fellow in Anthropology, formerly Associate Professor, Harvard University.
Dr R. G. Garnaut Senior Research Fellow in New Guinea Research Unit, formerly Research Fellow.
Professor L. B. Gustafson Professor of Economic Geology, Research School of Earth Sciences, formerly Chief Geologist, General Mining Division, The Anaconda Company, Arizona.
Professor S. F. Harris Chair in Resource Economics, Centre for Resource and Environmental Studies, formerly Deputy Secretary, Department of Overseas Trade, Canberra.
Professor A. S. Henderson Director NHMRC Social Psychiatry Research Unit, formerly Clinical Commissioner, Tasmanian Mental Health Services Commission; and Senior Honorary Psychiatrist and Director, Department of Psychiatry, Royal Hobart Hospital.
Dr C. A. Hughes Professorial Fellow in Political Science, formerly Foundation Professor, Chair of Political Science, University of Queensland.
Professor K. S. Inglis Professorial Fellow in History, formerly Vice-Chancellor, University of Papua New Guinea.
Dr J. N. Israelachvili Fellow in Applied Mathematics/Neurobiology, formerly Research Fellow.
Dr A. Johnston Senior Research Fellow in Nuclear Physics, formerly Lecturer, Department of Natural Philosophy, University of Glasgow.
Dr G. W. Jones Senior Fellow in Demography, formerly Population Council Representative working with Demographic Institute, Faculty of Economics, University of Indonesia.
Mr R. J. Lampert Senior Research Fellow in Prehistory, formerly Research Officer in Archaeology, Department of Prehistory.
Dr S. B. Laughlin Fellow in Neurobiology, formerly Postdoctoral Fellow.
Dr L. N. Mander Senior Fellow in Research School of Chemistry, formerly Senior Lecturer in Organic Chemistry, University of Adelaide.
Professor S. Marcelja Senior Research Fellow in Applied Mathematics, formerly Assistant Professor, University of Zagreb.
Professor R. F. Mark Professor and Head of Behavioural Biology, formerly Reader in Physiology, Monash University.
Dr A. W. Martin Senior Fellow in History, formerly Senior Research Fellow.
Dr R. F. Miller Senior Fellow in Political Science, formerly Fellow.
Dr D. J. Mitchell Fellow in Applied Mathematics, formerly Research Fellow.
Dr I. G. Morgan Fellow in Behavioural Biology, formerly Director of Research, National Centre of Scientific Research, Louis Pasteur University.
Mr N. B. Nairn Professorial Fellow and Joint General Editor, Australian Dictionary of Biography, formerly Senior Fellow.
Mr H. N. Nelson Senior Research Fellow in Pacific and South-East Asian History, formerly Research Fellow.
Dr J. W. Perram Senior Research Fellow in Applied Mathematics, formerly Research Fellow.
Dr S. J. Rosen Senior Research Fellow in International Relations, formerly Assistant Professor of Politics, Brandeis University.
Dr M. Rudner Senior Research Fellow in Economics, Research School of Pacific Studies, formerly Co-ordinator, Asia Research Unit, Harry S. Truman Research Institute, The Hebrew University of Jerusalem.
Dr A. W. Snyder Professorial Fellow in Applied Mathematics, formerly Senior Fellow.
Dr M. A. G. Stocker Senior Research Fellow in Economics, formerly Senior Fellow.
Philosophy, formerly Senior Lecturer, University of Sydney.
Professor J. B. Turner Chair of Geophysical Fluid Dynamics, Research School of Earth Sciences, formerly Reader in the Department of Applied Mathematics and Theoretical Physics, Cambridge University.
Dr N. Visvanathan Senior Research Fellow in Astronomy, formerly Visiting Associate, Hale Observatories and California Institute of Technology.
Dr J. R. S. Wallis Senior Research Fellow in Mathematics, formerly Research Fellow.
Professor Wang Gungwu Director of Research School of Pacific Studies and continuing Professor of Far Eastern History, formerly Professor and Head, Far Eastern History.
Dr T. R. Welberry Fellow in Research School of Chemistry, formerly Postdoctoral Fellow in Physics, University College, Cardiff.
Dr G. L. Wolfendale Senior Research Fellow in Computer Centre, formerly Developmental Manager, Digital Equipment Co.
Dr P. C. Young Professorial Fellow Centre for Resource and Environmental Studies, formerly Lecturer, Control Division, Department of Engineering, University of Cambridge.

School of General Studies

Dr M. Andrews Senior Lecturer in Theoretical Physics, formerly Lecturer.
Professor A. D. Barton Professor of Accounting and Public Finance, formerly Professor of Accounting and Business Studies, Macquarie University.
Dr C. Bryant Reader in Zoology, formerly Senior Lecturer.
Dr J. M. A. Chappell Senior Lecturer in Geomorphology, formerly Lecturer.
Dr D. K. Donaldson Senior Lecturer in Pure Mathematics, formerly Lecturer.
Mr W. R. Edeson Senior Lecturer in Law, formerly Lecturer in Law, University of Birmingham.
Dr J. J. T. Evans Senior Lecturer in Human Sciences Program, formerly Lecturing Fellow in Human Ecology.
Mr G. P. Fairbairn Reader in History, formerly Senior Lecturer.
Dr C. G. Fane Senior Lecturer in Economics, formerly Senior Research Officer, London.
Mr D. E. Fisher Senior Lecturer in Law, formerly Senior Legal Assistant, Scottish Law Commission.

Professor R. A. Gollan Professor of History, formerly Professiorial Fellow, History, Research School of Social Sciences.
Professor D. M. Griffin Professor of Forestry, formerly Master of Burgmann College.
Dr A. Howe Senior Lecturer in Pure Mathematics, formerly Lecturer.
Dr R. V. Jackson Senior Lecturer in Economic History, formerly Lecturer.
Mr G. J. Lindell Senior Lecturer in Law, formerly Senior Assistant Secretary, Attorney-General's Department, Canberra.
Mr J. G. Logan Senior Lecturer in Economics, formerly Lecturer.
Dr M. R. Middleton Reader in Psychology, formerly Senior Lecturer.
Professor J. M. Molony Professor of History, formerly Senior Lecturer.
Dr D. O'Connor Reader in Law, formerly Senior Lecturer.
Ms B. R. Penny Senior Lecturer in History, formerly Lecturer.
Dr K. H. M. Rensch Reader in Linguistics, formerly Senior Lecturer.
Dr T. Rajapatirana Senior Lecturer in Sanskrit, formerly Lecturer.

Mr J. F. Richardson Professor in Political Science, formerly Associate Professor, Department of Government, University of Sydney.
Dr M. J. Rickard Reader in Geology, formerly Senior Lecturer.
Dr J. D. Ritchie Senior Lecturer in History, formerly Lecturer.
Dr T. A. Shopen Senior Lecturer in Linguistics, formerly Assistant Professor of Linguistics, University of Indiana.
Mr P. Thom Senior Lecturer in Philosophy, formerly Lecturer.
Dr P. K. Trivedi Reader in Economics, formerly Lecturer in Econometrics, University of Southampton.
Mr J. Tydeman Senior Lecturer in Administrative Studies, formerly Senior Lecturer, School of Information Sciences, Canberra College of Advanced Education.
Dr G. B. Wood Senior Lecturer in Forestry, formerly Lecturer.
Senior staff resignations and retirements

Institute of Advanced Studies
Mr D. Bensusan-Butt Professorial Fellow in Economics, Research School of Pacific Studies.
Professor S. J. Butlin ‘Non-established’ Professor in Economic History.
Mr B. H. Crew Senior Lecturer, Centre for Continuing Education.
Dr K. Gottlieb Research Engineer (Fellow) in Astronomy.
Dr P. F. Nixon Senior Research Fellow in Biochemistry.
Professor P. H. Partridge Professor in Social Philosophy, Department of Philosophy.
Professor G. Sawyer Professor in Law and Pro-Vice-Chancellor.
Dr T. Terasawa Senior Research Fellow in Theoretical Physics.
Dr M. L. Treadgold Senior Research Fellow in Economics, Research School of Pacific Studies.

School of General Studies
Professor C. M. H. Clark Professor of History, retired.

Mr J. Dixon Senior Lecturer in Law, on appointment as Senior Lecturer in Law, University of Queensland.
Dr C. C. Heyde Reader in Statistics, on appointment as Senior Principal Research Scientist, CSIRO Division of Mathematics and Statistics.
Dr R. P. Irwin Senior Research Fellow in Sociology, on appointment as Visiting Fellow, Sociology.
Mr W. R. C. Jay Reader in Accounting and Public Finance, Faculty of Economics and Deputy Director of Centre for Research on Federal Financial Relations.
Professor K. A. Provins Professor of Psychology, on appointment as Deputy Vice-Chancellor, University of Adelaide.
Dr A. Tay Reader in Law, on appointment to Chair of Jurisprudence, University of Sydney.

Obituary
Dr Y. Takahashi Postdoctoral Fellow, Molecular Biology Unit, Research School of Biological Sciences, died 15 November 1975.
## Building program summary

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<tr>
<th>Buildings completed</th>
<th>Date completed</th>
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<tbody>
<tr>
<td>A. D. Hope Building</td>
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<tr>
<td>Life Sciences Library Building</td>
<td>November</td>
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<table>
<thead>
<tr>
<th>Buildings under construction</th>
<th>Estimated completion date</th>
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<td>Solid State Physics/Computer Centre/Lecture Theatre</td>
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<tr>
<td>Arts Centre (first phase)</td>
<td>February 1976</td>
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<td></td>
<td>June 1976</td>
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Full-time staff as at 30 April 1975

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<td><strong>Academic activities</strong></td>
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<td><em>Teaching and research staff</em></td>
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</tr>
<tr>
<td>professor</td>
<td>46</td>
<td>—</td>
<td>46</td>
</tr>
<tr>
<td>associate professor/reader</td>
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<td>3</td>
<td>54</td>
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<tr>
<td>senior lecturer</td>
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<tr>
<td>lecturer</td>
<td>85</td>
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<td>senior tutor/demonstrator/assistant lecturer</td>
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<td>17</td>
<td>49</td>
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<tr>
<td>tutor/demonstrator/teaching fellow</td>
<td>12</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td>visiting fellow</td>
<td>12</td>
<td>—</td>
<td>12</td>
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<tr>
<td><strong>Total</strong></td>
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<td>51</td>
<td>401</td>
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<tr>
<td><strong>Research only staff</strong></td>
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<td></td>
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<tr>
<td>professor</td>
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<td>—</td>
<td>68</td>
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<tr>
<td>professorial fellow/reader</td>
<td>195</td>
<td>6</td>
<td>201</td>
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<tr>
<td>senior fellow/fellow</td>
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<td>26</td>
<td>288</td>
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<tr>
<td>junior research staff</td>
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<td>157</td>
<td>240</td>
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<tr>
<td>visiting fellow</td>
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<td></td>
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<td>688</td>
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<tr>
<td><strong>Technical staff</strong></td>
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<td>44</td>
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<td>technical assistant</td>
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<td>203</td>
<td>398</td>
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<tr>
<td><strong>Total</strong></td>
<td>493</td>
<td>247</td>
<td>740</td>
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Designation                  males | females | total
---                          |--------|--------|
**Library staff**             |        |        |
professional                 | 17     | 37     | 54    |
other                        | 27     | 75     | 102   |
**Total**                    | 44     | 112    | 156   |

**Administrative staff**      |        |        |
chief administrative officer  | 6      | —      | 6     |
senior administrative officer | 12     | 3      | 15    |
administrative officer        | 23     | 4      | 27    |
administrative assistant      | 32     | 5      | 37    |
clerk/typist                  | 87     | 189    | 276   |
others                       | 11     | 10     | 21    |
**Total**                    | 171    | 211    | 382   |

**Building planning and maintenance staff** |        |        |
professional                 | 9      | 1      | 10    |
tradesmen                    | 71     | —      | 71    |
other                        | 23     | 12     | 35    |
**Total**                    | 103    | 13     | 116   |

**Other services**            |        |        |
116                           | 70     | 186    |

**Independent operations**    |        |        |
34                            | 64     | 98     |

**Grand total—all staff**     | 2158   | 1459   | 3617  |
### Research Only Staff

#### Academic Activities

<table>
<thead>
<tr>
<th>Research School of Biological Sciences</th>
<th>The Research School of Chemistry</th>
<th>The Research School of Earth Sciences</th>
<th>The John Curtin School of Medical Research</th>
<th>The Research School of Pacific Studies</th>
<th>The Research School of Physical Sciences</th>
<th>The Research School of Social Sciences</th>
<th>Micro-Analytical Services</th>
<th>Total for Academic Activities</th>
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<tbody>
<tr>
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<td>2</td>
<td>8</td>
<td>13</td>
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<td>4</td>
<td>1</td>
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<td>—</td>
<td>46</td>
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<tr>
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<td>3</td>
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<td>1</td>
<td>11</td>
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<td>11</td>
<td>2</td>
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<tr>
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<td>1</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>—</td>
<td>89</td>
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<tr>
<td>2</td>
<td>4</td>
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### Total Research Only

<table>
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<tr>
<th></th>
<th>Research Fellow, Postdoctoral Fellow</th>
<th>Research Assistant, Research officer</th>
<th>Visitor</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>Professor</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
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<tr>
<td>Reader</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
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<tr>
<td>Senior Fellow</td>
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<td>1</td>
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<tr>
<td>Senior Research Fellow</td>
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<tr>
<td>Total for Academic Activities</td>
<td>67</td>
<td>46</td>
<td>89</td>
<td>64</td>
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### Centre for Continuing Education

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<tr>
<td>Computer Centre</td>
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### Total Research Only

<table>
<thead>
<tr>
<th></th>
<th>Research Fellow, Postdoctoral Fellow</th>
<th>Research Assistant, Research officer</th>
<th>Visitor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate Professor</td>
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<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Reader, Senior Lecturer</td>
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<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Lecturer, Senior Tutor/ Demonstrator</td>
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<td>46</td>
<td>54</td>
<td>120</td>
<td>97</td>
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### Centre for Continuing Education

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<tr>
<td>Total Teaching and Research</td>
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<td>55</td>
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### Enrolments 1975

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<tr>
<td><strong>PhD courses</strong></td>
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<tr>
<td>Institute of Advanced Studies</td>
<td>291</td>
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<tr>
<td>The Faculties</td>
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<td>7</td>
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<td><strong>Total</strong></td>
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<tr>
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<td>146</td>
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<td>University Centres and other courses</td>
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<tr>
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| Other courses            |           |           |       |
| legal workshop           | 31        | —         | 31    |
| master’s preliminary/ qualifying | 62       | 164       | 226   |
| courses of research not leading to a degree | 3     | —         | 3     |
| **Total**                | 3810      | 2107      | 5917  |

**Net enrolments—total enrolments**

<table>
<thead>
<tr>
<th></th>
<th>males</th>
<th>females</th>
<th>total</th>
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<tbody>
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<tr>
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<tr>
<td><strong>Master degree courses</strong></td>
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<tr>
<td>The Faculties</td>
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<td>University Centres and other courses</td>
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### Assisted students

<table>
<thead>
<tr>
<th></th>
<th>males</th>
<th>females</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postgraduate students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australian Government assistance</td>
<td>234</td>
<td>71</td>
<td>305</td>
</tr>
<tr>
<td>University assistance</td>
<td>266</td>
<td>69</td>
<td>335</td>
</tr>
<tr>
<td>other assistance</td>
<td>20</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td><strong>Undergraduate students</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australian Government assistance</td>
<td>229</td>
<td>130</td>
<td>359</td>
</tr>
<tr>
<td>State Government assistance</td>
<td>66</td>
<td>100</td>
<td>166</td>
</tr>
<tr>
<td>University assistance</td>
<td>80</td>
<td>19</td>
<td>99</td>
</tr>
<tr>
<td>other assistance</td>
<td>—</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Net total assisted students at the University</strong></td>
<td><strong>880</strong></td>
<td><strong>303</strong></td>
<td><strong>1281</strong></td>
</tr>
</tbody>
</table>

* Adjusted by 9 for students counted in more than one category of assistance.

### Degrees conferred

<table>
<thead>
<tr>
<th></th>
<th>males</th>
<th>females</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctor of Letters (honoris causa)</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Doctor of Science</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Doctor of Philosophy</td>
<td>101</td>
<td>19</td>
<td>120</td>
</tr>
<tr>
<td>Master</td>
<td>41</td>
<td>12</td>
<td>53</td>
</tr>
<tr>
<td>Bachelor</td>
<td>536</td>
<td>275</td>
<td>811</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>678</strong></td>
<td><strong>306</strong></td>
<td><strong>984</strong></td>
</tr>
</tbody>
</table>

* Adjusted by 31 for students counted in more than one course.
Special purpose grants and bequests to the University during the year ended 31 December 1975

Academy of the Social Sciences in Australia, $18,700 for fellowships Research School of Social Sciences.

Alliance Industries and Shippers Pty Ltd, $755 for scholarship School of General Studies.

Ampol Petroleum Ltd, $1,500 for scholarship Department of Geology.

APM Forests Proprietary Ltd, $3,500 for research Department of Forestry.

Anonymous, $34,000 for general purposes.

Australian Advisory Committee on Research and General Humanities, $500 for research.

Australian Commission on Advanced Education, $15,000 for research Education Research Unit.

Australian Freedom from Hunger Campaign, $13,290 for scholarships Masters Degree Course in Agricultural Development Economics.

Australian Institute of Aboriginal Studies, $2,141 for research Department of Linguistics, SGS; $1,550 for scholarship Department of Chemistry; $1,631 for research Department of Prehistory and Anthropology.

Australian Institute of Aboriginal Affairs, $950 for research Department of Anthropology.

Australian Institute of Nuclear Science and Engineering, $19,749 for research Department of Nuclear Physics.

Australian Research Grants Committee, $6,931 for research general purposes; $2,512 for research Department of English; $13,396 for research Department of Geography; $4,933 for research Department of History, SGS; $14,940 for research Department of Pure Mathematics; $5,774 for research Department of Linguistics, SGS; $21,035 for research Department of Prehistory and Anthropology; $15,201 for research Department of Economics, SGS; $13,868 for research Department of Statistics, SGS; $6,126 for research Department of Asian Civilizations; $2,720 for research Department of South Asian and Buddhist Studies; $74,576 for research Department of Chemistry; $1,340 for research Department of Geology; $28,261 for research Department of Physics; $7,409 for research Department of Psychology; $44,280 for research Department of Zoology; $28,629 for research Department of Biochemistry, SGS.

Australian Tobacco Research Foundation, $8,836 for research Department of Biochemistry, SGS.

Australian Vice-Chancellors’ Committee, $30,837 for fellowship Department of Demography; $1,100 for research Department of Forestry; $500 for fellowship Department of Economics, Research School of Social Sciences.

CSIRO, $4,000 for research Department of Zoology; $4,577 for scholarship Research School of Biological Sciences; $1,344 for scholarship Research School of Physical Sciences; $734 for scholarship Research School of Social Sciences; $593 for scholarship School of General Studies; $398 for scholarship The John Curtin School of Medical Research.

Danish Embassy in Thailand, $8,531 for scholarship School of General Studies.

Darwin Community College, $19,000 for research Education Research Unit.

Department of Aboriginal Affairs, $13,651 for fellowship Department of Anthropology; $6,500 for Community Development Research Project in Brisbane, Mr S. Watson Jnr, Centre for Continuing Education; $23,450 for Community Development Research Project in North Queensland, Mr C. Berry, Centre for Continuing Education.

Department of the Capital Territory, $1,053 for research Department of Chemistry.

Department of Defence, $47,068 for fellowships Research School of Pacific Studies.

Department of Education, $5,000 for fellowship Faculty of Asian Studies; $29,500 for Japanese teaching material project Department of Economics, SGS; $32,125 for English/Malay Dictionary Faculty of Asian Studies; $11,615 for feasibility study of Undergraduate Medical School; $1,123 for research educational performance of Aboriginal children Department of Psychology.

Department of Foreign Affairs, $25,522 for Masters Degree Course in Agricultural Development Economics; $5,422 for assistance on the Development of Australian Studies University of Venice Research School of Social Sciences; $1,156 for Nepal Forestry Project Department of Forestry; $1,100 for research.

Department of Foreign Affairs, $2,340 for assistance of overseas projects Department of Forestry.
Department of Health, $19,333 for research Department of Sociology, SGS; $7,795 for research Department of Biochemistry, SGS; $133,044 for NHMRC Social Psychiatry Research Unit.
Department of Housing and Construction, $4,700 for research Urban Research Unit.
Department of Labour and Immigration, $46,868 for research Department of Demography.
Department of Manufacturing Industry, $2,500 for Forestry Environmental Consultancy Group Department of Forestry.
Department of Agriculture, $15,346 for research Department of Zoology; $1,034 for research Department of Physical Biochemistry; $5,598 for scholarship Department of Zoology; $2,400 for research Department of Environmental Biology; $561 for research Department of Experimental Pathology.
Department of the Prime Minister and Cabinet, $108,910 for Centre for Research on Federal Financial Relations; $19,609 to support work for Grants Commission Department of Accounting and Public Finance.
Department of Science, $38,301 for fellowships The John Curtin School of Medical Research; $92,354 for fellowships Research School of Physical Sciences; $44,708 for fellowships Research School of Chemistry; $20,098 for fellowships Research School of Biological Sciences; $19,502 for fellowship Department of Zoology; $10,610 for fellowship Department of Biogeography and Geomorphology; $115,963 for National NMR Centre.
Department of Social Security, $16,000 for research Department of Economics, SGS.
Department of Trade & Industry (NZ), $300 for research Department of Economic History, IAS.
Department of Transport, $15,750 for research Department of Chemistry.
Department of Urban & Regional Development, $19,300 for research Department of Prehistory; $4,702 for conference Department of Prehistory and Anthropology; $4,000 for study of Aboriginal prehistory at Jervis Bay Department of Prehistory and Anthropology.
Esso Australia Ltd, $500 for research Department of Geology.
FM Forests Pty Ltd, $1,250 for general purposes Department of Botany.
Ford Foundation, $3,117 for research Research School of Pacific Studies.
Imperial Chemicals Industries of Australia and New Zealand Ltd, $575 for fellowship Department of Physics.
Integrated Forest Products, $200 for Forestry Environmental Consultancy Group Department of Forestry.
International Development Research Unit, $1,250 for research Department of Human Geography.
Life Insurance Medical Research Fund of Australia and New Zealand, $8,067 for research Department of Clinical Science; $6,524 for research Department of Biochemistry, SGS.
Merk, Sharp & Dohme (Australia) Pty Limited, $1,500 for research Department of Zoology.
Muscular Dystrophy Association of America Inc., $6,043 for research Department of Physiology.
National Capital Development Commission, $2,500 for the Forestry Environmental Consultancy Group Department of Forestry.
National Heart Foundation of Australia, $5,761 for fellowship Department of Biochemistry, SGS; $3,479 for research Department of Clinical Science.
Nuffield Foundation, $1,085 for research Department of Human Biology.
Papua New Guinea—Central Planning Office, $15,000 to support study of the Chimba District Development Studies Centre; $53,808 for study of Economics of Telecommunications on PNG New Guinea Research Unit.
Reserve Bank of Australia, $11,660 for research Education Research Unit; $20,930 for research Department of Economics, SGS; $9,852 for research Department of Forestry; $4,200 for research Department of Environment; $4,000 for research Administrative Studies Program; $1,400 to support conference Implications for monetary policy in Australia Research School of Social Sciences; $200 for research Department of Accounting and Public Finance.
Rockefeller Foundation, $7,432 for research Department of Geography; $11,172 for research Department of Genetics; $100 for general purposes.
Rothman's University Endowment Fund, $5,300 for fellowship Department of Pure Mathematics.
Sandford Trus Australia Pty Limited, $2,247 for research Department of Forestry.
St Jude's Children's Research Hospital, $10,801 for research Department of Microbiology.
Mrs K. T. Singler, $2,500 for support of Polish Studies Department of Sociology, SGS.
P. N. Troy, $4,300 for research Urban Research Unit.
UNESCO, $22,800 for support of ecology work in Hong Kong Department of Human Biology.
United States of America—Department of Health, Education and Welfare, $738 for research Department of Neurobiology; $2,213 for research The John Curtin School of Medical Research; $4,685 for research The John Curtin School of Medical Research.
United States Airforce, $17,991 for research Research School of Earth Sciences.
University of Southampton, $680 for research Department of Physics.
Victorian Chamber of Manufacturers, $500 to assist conference Department of Economics, RSSS.
Western Mining Corporation Limited, $500 to support Indonesian Project Department of Economics. RSPacS; $2,900 for research Department of Geology.
Financial statements

Auditor-General’s Report

The Vice-Chancellor,
The Australian National University,
Canberra, ACT 2600

Dear Sir,

Financial Statements
Year ended 31 December 1975

In compliance with a request by the Treasurer in terms of section 33(1) of the Australian National University Act 1946, the accounts of the University have been audited for the year ended 31 December 1975.

The statements listed hereunder have been examined and are in agreement with the accounts and financial records of the University—

Statement of Net Assets as at 31 December 1975
Statement of Receipts and Payments (excluding Ancillary Activities) for the year ended 31 December 1975
Ancillary Trading Activities 1: Undergraduate Residences—Consolidated Operating Statement for the year ended 31 December 1975
Ancillary Trading Activities 2: Postgraduate Residences and Other Trading Activities (Excluding Housing Operation)—Consolidated Operating Statement for the year ended 31 December 1975
Ancillary Trading Activities 3: Housing Operation—Operating Statement for the year ended 31 December 1975

In my opinion the abovementioned statements show fairly the financial operations for the year ended 31 December 1975 and the state of the affairs of The Australian National University as at that date.

Yours faithfully,

(Sgd.)

(D. R. Steele Craik)
Auditor-General
## Statement of Net Assets as at 31 December 1975

<table>
<thead>
<tr>
<th></th>
<th>Current Assets</th>
<th>Non-Current Assets</th>
<th>Reserve for Employer's Liability for Super-annuation</th>
<th>Restricted Purpose Recurrent Funds</th>
<th>Total University General Funds</th>
<th>Ancillary Trading Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
</tr>
<tr>
<td><strong>Current Assets</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash on hand and on deposit</td>
<td>6,779</td>
<td></td>
<td>19</td>
<td>1,451</td>
<td>8,249</td>
<td>770</td>
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<tr>
<td>Trade debtors</td>
<td>21</td>
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<td>Other debtors and prepayments</td>
<td>129</td>
<td></td>
<td>363</td>
<td>492</td>
<td>77</td>
<td></td>
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<tr>
<td>Materials in stores and service pools (at cost)</td>
<td>519</td>
<td></td>
<td></td>
<td>519</td>
<td>482</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7,427</td>
<td></td>
<td>19</td>
<td>1,814</td>
<td>9,260</td>
<td>1,559</td>
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<tr>
<td><strong>Investments</strong> (at cost)</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Non-Current Assets</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Buildings (generally at cost)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-residential and service installations</td>
<td>54,389</td>
<td></td>
<td></td>
<td>54,389</td>
<td></td>
<td></td>
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<tr>
<td>Halls of residence</td>
<td>7,549</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Land and dwellings</td>
<td>444</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Leasehold Land and Dwellings</strong> (at replacement value—Note 1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12,086</td>
</tr>
<tr>
<td><strong>Equipment and Furniture</strong> (generally at cost)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Teaching and research</td>
<td>36,163</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Central areas</td>
<td>1,784</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Dwellings</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ancillary trading activities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Books and Publications</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(generally at cost)</td>
<td>6,436</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>106,767</td>
<td></td>
<td>15,039</td>
<td>371</td>
<td>122,177</td>
<td>13,989</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>7,427</td>
<td></td>
<td>15,039</td>
<td>2,185</td>
<td>15,041</td>
<td></td>
</tr>
<tr>
<td><strong>Less: Liabilities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade creditors and accruals</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>258</td>
</tr>
<tr>
<td>Other creditors</td>
<td>589</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loans from Superannuation Fund</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>249</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>507</td>
</tr>
<tr>
<td><strong>Net Assets</strong></td>
<td>7,387</td>
<td></td>
<td>15,058</td>
<td>2,185</td>
<td>130,808</td>
<td>15,041</td>
</tr>
</tbody>
</table>

| $000                     |                |                   |                                                     |                                   |                               |                             |

**Trust and Agency Funds** (Note 3) 6,218

*Note 1—Leasehold Land and Dwellings*

The accounting policy for the University's Housing Operation was changed during the year by re-stating leasehold land and dwellings at replacement value of $12,086,047, being replacement cost of $16,857,708 less accumulated depreciation of $4,771,661. Depreciation is being provided on the expected life of this asset.

*Note 2—Contingent Liabilities*

Guarantees have been given (i) under the University's staff housing assistance scheme to secure bank loans totalling $642,050 to University employees and (ii) to secure an overdraft of $250,000 negotiated by the University Union for building purposes.

**Note 3—Trust and Agency Funds**

Included in Trust and Agency Funds is the 1966 Supplementary Benefits Fund. At 30 June 1974 the past service benefits of the members of the fund exceeded the value of the assets held on behalf of the fund by an actuarially estimated amount of $17,640,000. The contribution rates to the fund were based on official advice.

D. A. Low  
Vice-Chancellor

N. G. MacDonald  
Accountant
## Statement of Receipts and Payments (Excluding Ancillary Trading Activities) for the Year ended 31 December 1975

<table>
<thead>
<tr>
<th>Recurrent</th>
<th>Capital Works and Services</th>
<th>Reserve for Employer's Liability for Superannuation</th>
<th>Restricted Purpose Recurrent</th>
<th>Total University General Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funds</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
</tr>
<tr>
<td>Reserved</td>
<td>730 (1)</td>
<td>24</td>
<td>64</td>
<td>1,276</td>
</tr>
<tr>
<td>Uncommitted</td>
<td>1,020</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Australian Government Grants:

- Standing appropriation (vide section 30(1) of The Australian National University Act) 650
- For running expenses (vide Appropriation Act (Nos. 1 & 3) 1974–75 Division 214.1 and Appropriation Act (Nos. 1 & 5) 1975–76 Division 279.1) 65,366 (2)
- Research grants (vide Appropriation Act (No. 1) 1974–75 Division 475.3.03 and Appropriation Act (No. 1) 1975–76 Division 540.3.03) 311
- Postgraduate awards (vide Appropriation Act (No. 1) 1974–75 Division 200.4.01 and Appropriation Act (No. 1) 1975–76 Division 200.4.01) 97
- Approved capital program (vide Appropriation Act (No. 2) 1974–75 Division 845.1.01 and Appropriation Act (No. 2) 1975–76 Division 855.1.01) 3,016
- Tuition and examination fees 18
- Subsidies and donations 2
- Other receipts 496

<table>
<thead>
<tr>
<th>Sub-total</th>
<th>66,629</th>
<th>3,088</th>
<th>3,105</th>
<th>2,613</th>
<th>5,720</th>
</tr>
</thead>
</table>

| Total Receipts | 68,379 | 3,112 | 3,169 | 4,200 | 78,860 |

### Payments

- Salaries 38,500
- Payroll tax, workmen’s compensation and superannuation provision 6,485
- Materials and supplies 2,872
- Field and research expenses 420
- Scholarships and fellowships 1,850
- General expenses 6,075
- Equipment 3,901
- Library books 855
- Buildings and site services 191

<table>
<thead>
<tr>
<th>Payments from Australian Government Research grants</th>
<th>370</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payments from Australian Government postgraduate awards</td>
<td>97</td>
</tr>
<tr>
<td>Fund disbursements</td>
<td>369</td>
</tr>
<tr>
<td>Net investments</td>
<td>2,780</td>
</tr>
<tr>
<td>Other payments</td>
<td>90</td>
</tr>
</tbody>
</table>

| Total Payments | 61,705 | 3,007 | 3,150 | 2,749 | 70,611 |

| Balances carried forward to 1976— | 6,674 | 105 | 19 | 1,451 | 8,249 |
| Reserved | 6,432 (2) | 103 | 19 | 1,451 | 8,007 (2) |
| Uncommitted | 242 |

| Total Balance Carried Forward | 6,674 | 105 | 19 | 1,451 | 8,249 |

(1) Excludes Staff Housing Replacement Reserve balance of $768,000 transferred to Housing Operation.
(2) Includes $4,800,000 received in December 1975 in respect of 1976 recurrent expenditure.
Statement of Changes in Assets and Liabilities for the Year ended 31 December 1975

<table>
<thead>
<tr>
<th></th>
<th>Balances as at 1 January 1975 (1)</th>
<th>Net Increases (2)</th>
<th>Net Decreases (3)</th>
<th>Balances as at 31 December 1975 (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
</tr>
<tr>
<td><strong>Current Assets and Liabilities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash holdings (including restricted funds)</td>
<td>3,882</td>
<td>4,367</td>
<td></td>
<td>8,249</td>
</tr>
<tr>
<td>Other debtors and prepayments</td>
<td>402</td>
<td>145</td>
<td>55</td>
<td>492</td>
</tr>
<tr>
<td>Materials in stores and service pools</td>
<td>503</td>
<td>16</td>
<td></td>
<td>519</td>
</tr>
<tr>
<td>Liabilities (sundry creditors, etc.)</td>
<td>(791)</td>
<td>(162)</td>
<td>(629)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3,996</td>
<td>4,528</td>
<td>(107)</td>
<td>8,631</td>
</tr>
<tr>
<td><strong>Non-Current Assets</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building and site services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-residential</td>
<td>51,012</td>
<td>3,377</td>
<td></td>
<td>54,389</td>
</tr>
<tr>
<td>Halls of residence</td>
<td>7,483</td>
<td>66</td>
<td></td>
<td>7,549</td>
</tr>
<tr>
<td>Land and dwellings</td>
<td>6,093</td>
<td>5,649</td>
<td></td>
<td>444</td>
</tr>
<tr>
<td>Equipment and furniture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-residential</td>
<td>33,682</td>
<td>4,265</td>
<td>548</td>
<td>37,947</td>
</tr>
<tr>
<td>Furniture in dwellings</td>
<td>550</td>
<td>888</td>
<td></td>
<td>6,436</td>
</tr>
<tr>
<td>Library books</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>104,368</td>
<td>8,596</td>
<td>6,197</td>
<td>106,767</td>
</tr>
<tr>
<td>Investments</td>
<td>12,705</td>
<td>2,705</td>
<td></td>
<td>15,410</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>117,069</td>
<td>15,299</td>
<td>6,090</td>
<td>122,079</td>
</tr>
<tr>
<td><strong>Ancillary Trading Activities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Assets and Liabilities</td>
<td>219</td>
<td>833</td>
<td></td>
<td>1,052</td>
</tr>
<tr>
<td>Non-Current Assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leasehold land and dwellings</td>
<td>1,093</td>
<td>167</td>
<td></td>
<td>1,260</td>
</tr>
<tr>
<td>Equipment and furniture</td>
<td>622</td>
<td></td>
<td></td>
<td>622</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,312</td>
<td>13,708</td>
<td></td>
<td>15,020</td>
</tr>
<tr>
<td>Investments</td>
<td>13</td>
<td>8</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,325</td>
<td>13,716</td>
<td></td>
<td>15,041</td>
</tr>
</tbody>
</table>
## Analysis of Changes in Non-Current Assets

<table>
<thead>
<tr>
<th></th>
<th>From Recurrent Funds (1)</th>
<th>From Capital Works and Services Funds (2)</th>
<th>From Other Sources (3)</th>
<th>Total Acquisitions (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Buildings and site services</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-residential buildings</td>
<td>143 $000</td>
<td>2,759 $000</td>
<td>633 $000</td>
<td>3,535 $000</td>
</tr>
<tr>
<td>Halls of residence</td>
<td>48 $000</td>
<td>18 $000</td>
<td>23 $000</td>
<td>66 $000</td>
</tr>
<tr>
<td>Land and dwellings</td>
<td>191 $000</td>
<td>2,777 $000</td>
<td>656 $000</td>
<td>3,624 $000</td>
</tr>
<tr>
<td><strong>Equipment and furniture</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-residential equipment</td>
<td>3,871 $000</td>
<td>87 $000</td>
<td>662 $000</td>
<td>4,620 $000</td>
</tr>
<tr>
<td>Furniture in dwellings</td>
<td>856 $000</td>
<td>32 $000</td>
<td>888 $000</td>
<td></td>
</tr>
<tr>
<td><strong>Library books</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>4,918 $000</td>
<td>2,864 $000</td>
<td>1,350 $000</td>
<td>9,132 $000</td>
</tr>
<tr>
<td><strong>Ancillary Trading Activities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leasehold land and dwellings</td>
<td>536 $000</td>
<td>1 $000</td>
<td>536 $000</td>
<td>536 $000</td>
</tr>
<tr>
<td>Furniture and equipment</td>
<td>30 $000</td>
<td>113 $000</td>
<td>144 $000</td>
<td>144 $000</td>
</tr>
<tr>
<td>Furniture in dwellings</td>
<td>82 $000</td>
<td>82 $000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>731 $000</td>
<td>762 $000</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Asset Revaluation (5)</th>
<th>Asset Transfer (6)</th>
<th>Decreases and Disposals (7)</th>
<th>Net Changes (8)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Buildings and site services</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-residential buildings</td>
<td>3,535 $000</td>
<td>(137) $000</td>
<td>21 $000</td>
<td>3,377 $000</td>
</tr>
<tr>
<td>Halls of residence</td>
<td>66 $000</td>
<td>(5,672) $000</td>
<td>66 $000</td>
<td>(5,649) $000</td>
</tr>
<tr>
<td>Land and dwellings</td>
<td>23 $000</td>
<td>(5,809) $000</td>
<td>21 $000</td>
<td>(2,206) $000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3,624 $000</td>
<td>(5,809) $000</td>
<td>21 $000</td>
<td>(2,206) $000</td>
</tr>
<tr>
<td><strong>Equipment and furniture</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-residential equipment</td>
<td>4,620 $000</td>
<td>(48) $000</td>
<td>907 $000</td>
<td>4,265 $000</td>
</tr>
<tr>
<td>Furniture in dwellings</td>
<td>4,620 $000</td>
<td>(596) $000</td>
<td>307 $000</td>
<td>4,265 $000</td>
</tr>
<tr>
<td><strong>Library books</strong></td>
<td>888 $000</td>
<td>(6,405) $000</td>
<td>328 $000</td>
<td>2,875 $000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>9,132 $000</td>
<td>(6,405) $000</td>
<td>328 $000</td>
<td>5,999 $000</td>
</tr>
<tr>
<td><strong>Ancillary Trading Activities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leasehold land and dwellings</td>
<td>536 $000</td>
<td>6,313 $000</td>
<td>598 $000</td>
<td>12,086 $000</td>
</tr>
<tr>
<td>Furniture and equipment</td>
<td>144 $000</td>
<td>29 $000</td>
<td>6 $000</td>
<td>167 $000</td>
</tr>
<tr>
<td>Furniture in dwellings</td>
<td>82 $000</td>
<td>541 $000</td>
<td>1 $000</td>
<td>622 $000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>762 $000</td>
<td>6,313 $000</td>
<td>605 $000</td>
<td>12,875 $000</td>
</tr>
</tbody>
</table>
Ancillary Trading Activities
Undergraduate Residences—Consolidated Operating Statement for the Year ended 31 December 1975

<table>
<thead>
<tr>
<th>Income</th>
<th>Bruce Hall</th>
<th>Burton Hall</th>
<th>Garran Hall</th>
<th>Toad Hall</th>
<th>Bruce Hall Annexe</th>
<th>Corin Dam Huts</th>
<th>Lennox House ‘A’ Block</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td></td>
</tr>
<tr>
<td>Tariffs received</td>
<td>407</td>
<td>349</td>
<td>349</td>
<td>127</td>
<td>14</td>
<td>19</td>
<td>6</td>
<td>1,271</td>
</tr>
<tr>
<td>Membership and registration fees</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>Casual meals, catering and sundry income</td>
<td>93</td>
<td>14</td>
<td>14</td>
<td>1</td>
<td>7</td>
<td>11</td>
<td>11</td>
<td>122</td>
</tr>
<tr>
<td>Canteen and beverage sales—gross profit</td>
<td>7</td>
<td>14</td>
<td>14</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>1</td>
<td>29</td>
</tr>
<tr>
<td>Contribution from University Subsidy based on Universities Financial Assistance Act 1966 Section 8</td>
<td>28</td>
<td>30</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>538</td>
<td>407</td>
<td>407</td>
<td>130</td>
<td>18</td>
<td>27</td>
<td>8</td>
<td>1,535</td>
</tr>
</tbody>
</table>

Expenditure

<table>
<thead>
<tr>
<th>Operating Expenses</th>
<th>Bruce Hall</th>
<th>Burton Hall</th>
<th>Garran Hall</th>
<th>Toad Hall</th>
<th>Bruce Hall Annexe</th>
<th>Corin Dam Huts</th>
<th>Lennox House ‘A’ Block</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foodstuffs</td>
<td>106</td>
<td>75</td>
<td>75</td>
<td>23</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>112</td>
</tr>
<tr>
<td>Fuel, light, power and heating</td>
<td>26</td>
<td>27</td>
<td>27</td>
<td>23</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>112</td>
</tr>
<tr>
<td>Cleaning, laundry and sundry materials</td>
<td>12</td>
<td>9</td>
<td>9</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>Domestic staff wages</td>
<td>219</td>
<td>158</td>
<td>158</td>
<td>26</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>566</td>
</tr>
<tr>
<td>Other operating expenses</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>27</td>
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<tr>
<td></td>
<td>372</td>
<td>278</td>
<td>278</td>
<td>52</td>
<td>6</td>
<td>7</td>
<td>3</td>
<td>996</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Administrative Expenses</th>
<th>Bruce Hall</th>
<th>Burton Hall</th>
<th>Garran Hall</th>
<th>Toad Hall</th>
<th>Bruce Hall Annexe</th>
<th>Corin Dam Huts</th>
<th>Lennox House ‘A’ Block</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative salaries</td>
<td>51</td>
<td>42</td>
<td>42</td>
<td>17</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>158</td>
</tr>
<tr>
<td>Payroll tax, workmen’s compensation insurance and superannuation provision</td>
<td>28</td>
<td>24</td>
<td>24</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td>80</td>
</tr>
<tr>
<td>Other administrative expenses</td>
<td>18</td>
<td>25</td>
<td>25</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
<td>73</td>
</tr>
<tr>
<td></td>
<td>97</td>
<td>91</td>
<td>91</td>
<td>23</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>311</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property Maintenance and Service Expenses</th>
<th>Bruce Hall</th>
<th>Burton Hall</th>
<th>Garran Hall</th>
<th>Toad Hall</th>
<th>Bruce Hall Annexe</th>
<th>Corin Dam Huts</th>
<th>Lennox House ‘A’ Block</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment of Loan</td>
<td>59</td>
<td>28</td>
<td>28</td>
<td>29</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>59</td>
<td>28</td>
<td>28</td>
<td>29</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>150</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td>528</td>
<td>397</td>
<td>397</td>
<td>121</td>
<td>18</td>
<td>27</td>
<td>8</td>
<td>1,496</td>
</tr>
</tbody>
</table>

Net Operating Profit
transferred to Accumulated Profits and Losses | Bruce Hall | Burton Hall | Garran Hall | Toad Hall | Bruce Hall Annexe | Corin Dam Huts | Lennox House ‘A’ Block | Total |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td></td>
</tr>
<tr>
<td>$10</td>
<td>$10</td>
<td>$10</td>
<td>$9</td>
<td>$9</td>
<td></td>
<td></td>
<td></td>
<td>39</td>
</tr>
</tbody>
</table>

1 Operated jointly.
Ancillary Trading Activities 2
Postgraduate Residences and other Trading Activities (Excluding Housing Operation)—Consolidated Operating Statement for the Year ended 31 December 1975

<table>
<thead>
<tr>
<th>University House</th>
<th>Graduate House</th>
<th>Siding Lodge</th>
<th>Siding Spring Exhibition</th>
<th>Staff Centre</th>
<th>ANU Press</th>
<th>Centre for Continuing Education</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
</tr>
</tbody>
</table>

**Income**

- Tariffs received: 295, 89, 44, 428
- Membership and registration fees: 33, 34, 220, 287
- Casual meals and sundry income: 7, 3, 17, 4, 31
- Food and beverage sales—gross profit: 264, 162, 426
- Book sales—gross profit: 46, 42, 220, 193
- Contribution from University: 645, 89, 47, 17, 242, 193, 220, 1,453

**Expenditure**

**Operating Expenses**

- Fuel, light, power and heating: 29, 14, 4, 6, 53
- Cleaning, laundry and sundry materials: 16, 8, 1, 4, 33
- Domestic staff wages: 331, 23, 1, 4, 496
- Other operating expenses: 23, 8, 23, 4, 58

**Administrative Expenses**

- Administrative salaries: 91, 10, 10, 13, 31, 193, 278
- Payroll tax, workmen's compensation and superannuation provision: 36, 2, 4, 1, 13, 26, 82
- Other administrative expenses: 40, 2, 2, 2, 16, 32, 204, 298

**Property Maintenance and Service Expenses**

**Payment of Loan**

- Total Expenditure: 648, 90, 59, 17, 237, 189, 204, 1,444

**Net Operating Profit/(Loss)**

- (3) (1) (12) 5 4 16 9

**Less: Extraordinary Items**

- Overtime payments for 1970 to 1974: (14) (14)
- Understatement of losses in 1972: (1) (1)
- Royalty payments in 1973 and 1974: (7) (7)

**Net Profit/(Loss) transferred to Accumulated Profits and Losses**

- (3) (1) (12) (10) (3) 16 (13)

1 Centre for Continuing Education operating statement refers to Conference, Seminar and Workshop activities.
### Ancillary Trading Activities 3
### Housing Operation—Operating Statement for the Year ended 31 December 1975

<table>
<thead>
<tr>
<th>Income</th>
<th>$000</th>
<th>$000</th>
<th>$000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rentals—Dwellings</td>
<td>426</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rentals—Furnishings</td>
<td></td>
<td>518</td>
<td>518</td>
</tr>
</tbody>
</table>

### Less: Expenditure

#### Operating Costs
- Rents—Department of the Capital Territory
- Rates—General
  - Water
  - Sewerage
- Gardening
- Electricity, oil and gas
- Cleaning
- Laundry and dry cleaning
- Storage and freight
- Maintenance of dwellings
- Maintenance of furnishings
- Alterations to furnishings

#### Administrative Costs
- Administrative salaries
- Payroll tax, workers' compensation insurance and superannuation
- Printing, stationery and telephones
- Provision for long service leave
- Accounting service fee
- Other administrative expenses

#### Loan Repayment and Provisions
- Payment of property loan interest
- Provision for insurance—
  - dwellings
  - furnishings
- Provision for replacement of—
  - furnishings
  - motor vehicles and office equipment
- Provision for depreciation of—
  - dwellings
  - leasehold land

#### Operating Loss
- Less: Extraordinary Item
  - Rates incorrectly paid on 1974 and recovered in 1975

#### Net Deficit—Transferred to Accumulated Profits and Losses
- (288)