**THE UNIVERSITY 1981**

**BASIC INFORMATION**

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<thead>
<tr>
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<th>1975</th>
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<td>Enrolled Students:</td>
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<td>Faculty Staffs:</td>
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<td>General Staffs:</td>
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**1975-1981**

**GRADUATES:**

- Bachelor of Science: 574
- Bachelor of Science with Honours: 126
- Bachelor of Arts: 661
- Bachelor of Arts with Honours: 47
- Master of Science: 62
- Research Higher Degrees: 20

**TOTAL GRADUATES 1975-1981:** 1,490
May it please Your Excellency,
I have the honour to present to you, on behalf of the Council of the Griffith University the Annual Report of the University for 1981.

October 1982

SIR THEONOR BRAY, CBE, DGU,
Chancellor
THE COUNCIL

Chancellor
Sir Theodor Bray, CBE, DUniv, ex officio

Deputy Chancellor
Sir Allan Sewell, ISO, AASA, ACIS, FIMA, FIDA, Chairman, State Government Insurance Office (Queensland)

Vice-Chancellor
Dameurth Professor F.J. Willett, DSc, MA Camb., MBA, Hon. LLB Melb., ex officio

Appointees of the Governor-in-Council
Mrs Daphne M. Buckley, BEd BSc Syd., DipEd N.E., MEdAd Vld., MACE, Lecturer, Department of Education, University of Queensland

The Honourable Mr Justice J.D. Dunn, BA LLB Qld., Justice of the Supreme Court of Queensland

Sir Robert Mathers
Company Chairman and Managing Director

M.A. Howell, BA Bed Matb., Meddini M.S., FACE, Headmaster, Brisbane Grammar School

A.J. Peel, A.A.U.Q., Auditor General for Queensland

Nominees of the Director-General of Education
W.L. Hamilton, BSc Bed Qld., Med Ad Vld., FACE, Deputy Director-General of Education, Queensland

Senior Faculty Staff
K.B. Bucknall, BSc(Econ) Lond., PhD A.N.H., Senior Lecturer, School of Modern Asian Studies
C.W. Rose, BSc BE Syd., PhD Lond., FIP, Professor, School of Australian Environmental Studies
R.L. Segall, MSc Medb., PhD Camb., FAFIP, FIP, Professor, School of Science

Junior Faculty Staff
Sarah T. Rickson, BA Whittier, MA Hawai, PhD Wash., Senior Teaching Fellow, School of Humanities

Postgraduate Student of the University
P. Dottori, BSc Qld.

Full-Time Undergraduate Student of the University
Susanne V. Stratford, School of Humanities (up to June 1981)

A.M. Iwanow, School of Social and Industrial Administration (from July 1981)

Part-Time Undergraduate Student of the University
N. Williams, School of Modern Asian Studies

Members of Convocation
R.S. Holmes, BSc PhD Qld., DSc, Reader, School of Science
C.B. Houlton, BA Qld., School Administrator, School of Australian Environmental Studies
Mrs M. Leigh Tabbett BA Qld., Academic Secretary
Patience R. Thom, BA, Public Relations Consultant

Invited Members
D.F.S. Brown, AO, MC, Company Managing Director
The Hon. Sir Gordon Chalk, KBE, Hon. LLB Qld., Company Director

PRINCIPAL OFFICERS OF THE UNIVERSITY

Vice-Chancellor
Emeritus Professor F.J. Willett, DSc, MA Camb., MBA Hon. LLB Melb.

Pro-Vice-Chancellor
Professor R.D. Guthrie BSc PhD DSc Lond., FRACI, FRSC, FRSA (until 15 October 1981)

Assistant Vice-Chancellor
J. Topley, Bed Qld., (from 15 October 1981)

Executive Officers
Chairman, School of Australian Environmental Studies
O.W. Connell, MSc PhD Qqd.

Chairman, School of Humanities
G.W. Connell, MSc PhD Qld.

Chairman, School of Modern Asian Studies
Professor C.P. Mackerras, BA Medb. and A.N.U., Milt Camb., PhD A.N.U.
In 1981, Griffith University celebrated its tenth birthday: the University was established by an Act of the Parliament of the State of Queensland, which received the Royal Assent on 30 September, 1971. In these circumstances, we have taken the opportunity afforded by our Annual Report to glance retrospectively over the decade as well as report on the specifics of the year 1981.

The first 10 years of Griffith's history have been eventful and, by any criterion, successful. The University came into being just at that time when the industrialised nations of the West began to realise the important social and economic significance of a marked decline in their birth rates, at the time when the persistent post-war inflation rate of around 2 1/2% exploded towards double digit levels and when the first effects of the OPEC oil cartel grievously shocked and disturbed the confidence of the world economic system. There is a Chinese curse: 'May you live in interesting times!'

There is no clearer indication of the changing environment for the University than the student population targets that it has set for itself. In 1971, the University proposed that the pressures of demography - natural population growth and immigration - would lead to the development of some 8,000 or more students by 1995, and that economic resources would be available to make that target achievable. This goal was accepted by both State and Commonwealth Governments. By late 1972, the University sought leave to scale down its aiming point for 1995 to 4,000, and it is in some doubt as to whether it will be financed to grow to that level. The University, in this respect, faces the problem that, though population growth has slowed for Australia as a whole, the pattern of internal migration in recent years has meant that the population of Queensland shows considerable growth. A good deal of that growth is in the age groups likely to be seeking admission to higher education and the University hopes to be able to respond to that growing demand.

Early in the life of the University, an agreement between the State and Commonwealth Governments established the Commonwealth as the sole source of money for the universities and, at the same time, abolished tuition fees. Both of these decisions had important consequences for the University. The first has permitted, indeed encouraged, ever increasing intervention and control by Canberra, to the degree that some important aspects of university autonomy have been whittled to zero. The autonomy of institutions of higher education is not a luxury for the institutions but necessary insurance by the community against the changes of the future. Universities must have the essential freedom to analyse and criticise the past and the present in order to educate its students, and to prepare the society, for the worlds that lie ahead. Too much central planning will seriously restrict the range of possible changes that will be explored and leave the country helplessly unprepared if the central bureaucrats' vision of the future is wrong.

In contra-distinction to the increasingly difficult and sensitive issues of control with respect to the Commonwealth Government, the State Government has been consistently supportive, without interference, in the best traditions of Australian Government-university relations. Ministers,
members of Parliament and members of the Public Service have helped us greatly in the development of our academic and our public service functions. We sense that the Parliament and Government of Queensland is pleased and proud to have generated a new, vigorous and innovative university.

The second change of 1974, the abolition of fees, has done little to change the social class composition of student populations but it has markedly affected the age range. Many more people from 30 and over now find it possible to contemplate enrolling in a university, either for a first qualification or, of at least equal importance, different or renewed qualifications in the light of technological or professional practice changes. From the early days of planning, Griffith expected to play an important role in helping people to cope with change and fee abolition has helped us to achieve that end. There is criticism that education is 'wasted' on older people: in our experience this criticism is unfounded. In today's world many people in mid-life do face the need for a substantial career change and it is greatly in the interests of a community to make education for such change available. If people cannot have access to retraining, pressure mounts to retain old and inefficient industries and technology and there is social friction and cost. We have seen too many success stories, including success achieved by elderly folk, to renege from our commitments in this area.

The successes of Griffith include its growth from 451 students in 1975 to 2,227 in 1981 but more importantly than growth in numbers has been the establishment of its academic reputation in Australia and overseas. We set out to achieve specific goals in teaching - to provide coherent programmes of undergraduate study that were focused on the problems and issues of contemporary society, to mount these courses with a great deal of concern for the design and implementation of teaching and assessment activities and to set specialist studies firmly in a general context that related to these studies. The University is well recognised here and overseas as one of the most successfully innovating universities and, as is set out in detail in the text of the Report, we have maintained our ideals.

In research, the achievements of the University are great. It is small but very vigorous. It has the great advantage of late development, of recruiting its staff when there were few other opportunities in the English speaking world; its staff is young, with an average age of 36 years and with their futures before them. There has been little opportunity as yet for staff to become sated by achievement or frustrated by its absence, and output in both teaching and research is high. By any measure of research grants per scholar or competitive awards won by staff and students, the University is successful academically.

The central goals of Griffith University include excellence in teaching, in research and, as a third but vital dimension, public service. The University believes that it has an obligation to place its skills and knowledge at the service of the community. Our problem-oriented teaching and research make this public service a feasible aim. Some universities believe that too close an involvement with immediate social issues has dangers in that it might trigger hostile political responses: at Griffith we have been prepared to take that risk and, in 10 years, have little room for complaint about backlash. One of the largest programmes of social intervention has been the work of the School of Australian Environmental Studies in researching, developing and then actively sponsoring new concepts in self-helping health care. This successful initiative might have raised strong opposition from the health care professionals, from hospitals and governments. Opposition has, however, been rare and readily overcome by persuasion; widespread co-operation has been far more the normal response. The same can be said of work on water management, fisheries management and defensive driving. Our 'clients' have been Government departments at all levels, industry, community and citizens' groups and individuals. The scale ranges from student projects to massive commitments that demand several man-years of work.

In another, but related, set of activities, the University sees itself as providing facilities and a focal point for a number of community activities, especially in our own area. The Library serves many people who are not staff and students of Griffith and we encourage such use. Local residents can, and do, acquire borrowing rights and citizens of all ages use our collection in pursuit of formal studies, interests or hobbies. Through our associated Queensland Film and Drama Centre, the University provides a wide range of creative and community arts facilities,
which have been financed by donations and grants. These include a pottery workshop and kiln, an etching plant, a silk screen workshop and a video editing suite. All these are as available to the public as to our own community and all are used as bases for visiting artists-in-residence—also financed by donations and grants—whose contributions as teachers are also widely available. The University Concerts Committee and the University's collection of works of art are accessible to the public and we are pleased indeed to see public use of the University for these and a host of other activities. We are, in many senses, custodians of public resources, raised from taxpayers, and we hope to openly demonstrate our stewardship and accountability.

Physically, the University has developed within a tightly controlled, environmentally sensitive Interim Development Plan into one of the more attractive campuses in Australia. We owe much to the genius of our Site Planner, Mr. R. Johnson and to the architects who have designed buildings to respond to their functions, their site and the inevitable tight budget. In many ways, gaining agreement that the University would build the residential Village for the 1982 Commonwealth Games, has been the capstone to our physical planning. The Village was completed in 1980 and is fully occupied in 1981. It has greatly enlarged and enriched the life of the University; there is a population abroad from early morning to late at night and many activities thrive.

The University is most fortunate that, from the beginning, the control and direction of the affairs of its governing bodies has been in the hands of the Chancellor, Sir Theodor Bray. The University is fortunate, also, in that its governing bodies have been small—the present Council has 23 members—and therefore, under good leadership, the Councils have been coherent and workmanlike organs of high management.

1981 continues the history and the achievements of the University. It is noticeable for the almost accidental stress on co-operative links with other institutions. In 1972, with generous cooperation from the University of Queensland and its then Vice-Chancellor, Professor Sir Zelman Cowen, we decided to enter into partnership with that University to develop a joint computer centre rather than to struggle to build adequate capacity on campus. That relationship and the need to closely husband available resources, has led us to explore many other co-operative links with the University of Queensland, with the Queensland Institute of Technology, with the then Mt. Gravatt C.A.E. and with other bodies. The co-operation extends over whole teaching programmes, specific courses, computing, the sharing and joint management of expensive research equipment, library operations and integrated administrative systems. Queensland is unique in the degree and level of co-operation between the Brisbane institutions. We believe strongly in the rational use of resources and in co-operative rather than directed planning to achieve that end.

1982 will be a year that is greatly affected by the XII Commonwealth Games but it will, in its turn, add to the achievement of a significant and virile institution.

F. J. Willett
Vice-Chancellor
THE COUNCIL AND THE EARLY UNIVERSITY

In December 1970, the Queensland Government appointed an Interim Council to advise it on the establishment of a university, and set up a small secretariat to support the Council. At the first meeting of the Interim Council the then Minister for Education, Mr A.R. (later Sir Alan) Fletcher, announced that the University would be named after Sir Samuel Griffith, a former Premier and Chief Justice of Queensland, and the first Chief Justice of Australia.

The Interim Council and later the First Council undertook the work of creating an academic philosophy and an organizational structure for the University, planning for legislation, and developing the site. Attention was also given to the needs of the University community of staff and students, and the provisions which should be made for them.

In association with the Commonwealth and State Governments, it was decided that the development of Griffith University should proceed so that the first students could be taken in the 1975 academic year. Planning funds were provided for 1971 and 1972, after which the University was funded on the then normal triennial basis. Much help was received, in particular, from the University of Queensland, and the Department of the Co-ordinator-General of Public Works in supporting this work.

The subsequent Council was able to fill some of its categories of membership from among the staff of the University, thus taking the first steps towards establishing the relatively small (23 members) but representative governing body of the University. In July, 1975, the first fully constituted Council met for the first time, with members comprising appointees of the Governor-in-Council and elected representatives of the staff, students and the Convocation. At that meeting, Sir Theodor Bray was elected Chancellor of the University, and Mr L.W.H. Butts was elected Deputy Chancellor.

An important responsibility of the Council was to appoint the senior officers of the University to be responsible for putting into effect the academic, organizational, and physical plans to prepare the University for its teaching, research, and community service roles.

The Vice-Chancellor, Professor F.J. Millett, took up his appointment in March, 1972, becoming a member of the First Council. This Council went on to appoint eight Foundation Professors, a University Site Planner, a University Librarian, Registrar, Business Manager, and supporting staff. Through 1973 and 1974, the faculty and general staff required to operate the University were appointed. Courses of study and organizational systems were created and potential students informed about the new University. The First Council of the University, constituted on 30 September, 1971 continued in office until 1974.

Foundation Academic and Organizational Decisions

Among the earliest decisions taken by the Council were that the academic work of the University would be conducted in Schools, and that the administrative structure of the University be as uncomplicated as possible. These decisions rested in the firm belief that the University's courses should be relevant to the broadest concerns of our society, and that this goal could be achieved by bringing together into discrete elements the scholars needed to address those concerns in an interdisciplinary way. To reinforce this intention, it was agreed that the University should not incorporate a structure of academic departments housing staff with like disciplinary or professional interests. The School system lent itself to incorporation in a structure providing for the major academic and administrative functions to be performed in relatively few organizational divisions. Each Division would be a relatively self-contained unit with substantial delegated responsibility and authority in budgetary, staffing and general operational matters.

Another central intention of the founding Council was that the University should encourage high standards in the design of study programmes and in teaching. The Centre for the Advancement of Learning and Teaching was therefore set up to be closely involved with staff of the Schools in many aspects of the teaching process.

These divisions were linked to the Council by a group of standing committees of the Council for policy purposes, and by the Vice-Chancellor for executive and administrative purposes. The first standing committees set up were the Academic; Student Affairs; Organization; Site and Buildings; Finance; Legislation; and Management Advisory Committees. The constitutions of these committees were, and still are, such that in varying degrees their memberships include members of the Council, representatives of interested organizational groups within the University, and
ex officio and co-opted members from the community and the university with interest in the committees, or capacity to assist them.

In March 1980, a new Council, comprising members elected in November 1979 from and by members of the student, staff and Convocation bodies took office. Under the provisions of the amended Griffith University Act 1971–80, that Council served until 28 February 1982.

ACADEMIC DEVELOPMENT

The Schools

Academic development centred in the establishment within the general University academic structures and policies, of several broadly based Schools, each of which would be defined by a range of academic problems, or a particular academic theme. The approach to problem-solving and theme enunciation would be interdisciplinary.

The first four Schools and their themes were:

- the School of Australian Environmental Studies, whose objectives would be to foster understanding of the nature of the Australian environment; the interrelationship of its parts; and the laws or processes by which the parts influence one another;

- the School of Humanities, whose aim would be to explore the notion of human values, their development and communication;

- the School of Modern Asian Studies, which would be concerned with the development of political, commercial, industrial and cultural contact with Asian societies;

- the School of Science, which was to be initially concerned with the theme "Materials and Civilization". It was foreshadowed then that the School would develop a framework of physical science from which twentieth century technology can be appreciated as a social activity of major importance.

It was acknowledged that as the University grew, and academic and community needs altered, Schools might evolve, and new Schools might be created.

Ten years later, the first four Schools of the University remain with basically the same configurations of defined interests, although some of the emphases have changed, often in response to student interests. Thus the School of Australian Environmental Studies is now more oriented towards the physical sciences and measurement than had been originally expected. Likewise, in the School of Humanities the contributions of history (especially the history of ideas as originally envisaged), and philosophy is more restricted than first expected. Literary studies have maintained their place, but the Social Sciences and Media Studies are more strongly developed than had been foreseen. In the School of Modern Asian Studies, the original centrality of colloquial language acquisition has diminished; a decreasing number of bachelor's degree students study language in their second and third years (62% in 1979, 54% in 1981), and a language qualification is no longer a prerequisite for admission into the School's honours programmes. The School, however, remains firm in its encouragement of language study. In the School of Science, the original concentration on the physical sciences was from the start, intended to broaden to include the biological sciences and, in particular, the modern molecular aspects of biology in the life sciences. There has also been a shift towards the introduction of more end-oriented courses, typified in 1981 by the introduction of new areas of emphasis in Clinical Biochemistry and Electronics and Scientific Instrumentation.

Since 1973, the University has planned and made submissions for the establishment of a Clinical Medicine School, a School of Social and Industrial Administration, and a School of Fisheries. Each of these was intended to enable the University to balance its development as an institution of higher education by offering professional educational opportunities.

The Medical School, aimed at selecting and educating science graduates for general practice in community medicine, was seen as making an important contribution to relieving the shortage of medical practitioners in country Queensland. The University regrets that the Australian Government, acting on the advice of the Committee on Medical Schools of the Australian Universities Commission, decided not to establish the intended second Queensland Medical School in the University.

The University's proposal for a School of Social and Industrial Administration was first made in its 1976–78 triennial submission to the Australian Universities Commission. The new School, to be concerned with organizational theory and the concepts and skills for effective functioning in social, public and industrial...
organizations, was to have begun teaching in 1979. Approval for the School's establishment was given only late in 1978 - so that teaching was unable to commence before 1980. The School is the University's first to have an explicit professional stream – accountancy.

In 1980, a submission was made for the establishment of a School of Fisheries. The School was intended to train fisheries managers and scientists to provide manpower for a general development of organized fisheries in Australia, and to serve the various elements of the fishing industry, its associated industries, fisheries management and administrative agencies, and relevant research institutions.

The Commonwealth Tertiary Education Commission and the Commonwealth Government agreed that the establishment of a School of Fisheries was a national priority. The Government asked the Commonwealth Tertiary Education Commission to investigate the concept further and to advise on a location with special regard to the suitability of Tasmania. The University continues to be vitally interested in the establishment of such a School in Queensland and was, at the end of 1981, exploring the possibility of establishing a School of Fisheries as a joint venture with the other two Queensland universities.

The original planned size of the University was set at 6,000 to 8,000 students organized in Schools each with a maximum membership of 1,500 staff and students. The rapid decline in the birth rate and in immigration rates during the early 1970s caused the University to question the reality of that target and to revise its forecast of likely maximum size to 4,000 students by 1995. At the end of 1981 the University had a student population of 2,228, spread over five Schools ranging in size from 420 to 711 staff and students.

The Bachelor's Degree Programme

The structure for the bachelor's degree programme reflects the University's intention that students should not be required, at the beginning of their first year, to make binding decisions about interests and courses to be studied. Detailed programme planning was to be delayed until students could better appreciate the scope of their academic interests, and take advantage of academic counselling.

After the early adoption of a similar but more complex model, the following general pattern was adopted for the bachelor's degree:

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<th>1st Year</th>
<th>Foundation Programme</th>
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<tr>
<td></td>
<td>Foundation Course</td>
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<tr>
<td></td>
<td>Supporting Course</td>
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<tr>
<td>2nd &amp; 3rd Years</td>
<td>Main Study Programme</td>
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<td></td>
<td>One or two specialized concentrations of courses</td>
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The Foundation Course is required by the University to form at least part of a bachelor's degree programme. It is an integrated course designed to enable a student to comprehend the range of problems, issues or themes which define a School's academic ambit. It is a prerequisite to all second and third year courses.

The Supporting Course is a first year course which may, at a School's discretion, be offered as part of its Foundation Programme. It is designed to enable a student to acquire concepts, skills, methodologies, or analytical techniques needed to study in the School.

The Main Study Programme describes the major academic study undertaken in the second and third years of the bachelor's degree programme. It is made up of one or two concentrations which are groups of courses exemplifying a particular academic theme.

As has been the case with the original definition of each School's areas of interest, the structure, content, methods of assessment, and grading of the Foundation and Supporting Courses in the first four Schools in 1981 was quite different from that which applied in 1975. For example, the School of Science Foundation Programme has been modified twice since 1975. Originally, all first year students undertook a common programme. In 1978, two major streams (Physical Sciences and Life Sciences) were introduced into the Foundation Programme because it was felt that the programme was not sufficiently orientated toward the biological sciences to provide for Life Sciences students. In 1980, the programme reverted to a common curriculum - largely in response to the University's view that the availability of first year options amounted to streaming at the outset of the programme, and was therefore inconsistent with a major tenet of the University's philosophy. It is a reflection of the responsiveness of Schools to problems identified in the particular presentation of Foundation and Supporting Courses, that even in the School of Social and Industrial Administration, substantial structural changes were made to the 1981
Foundation Programme as a result of experience with its first offering in 1980.

Another major early commitment was to the concept of team-teaching - a feature consistent with the interdisciplinarity which was to characterise each School's approach to addressing its academic theme. The University is pleased to record that team-teaching continues to be the basic working group for most course teaching and assessment in the bachelor's degree programmes.

Very early in the life of the University, it was resolved that the University would provide for the needs of part-time students, and take positive steps to ensure that distinctions between part-time and full-time study are minimised. The School of Modern Asian Studies was the first to offer an evening part-time programme in 1978. This was followed by the School of Australian Environmental Studies in 1980. The strong demand for places in the Bachelor of Administration programme in 1980 and 1981 led the School of Social and Industrial Administration to offer an evening part-time programme from 1982. In 1981, planning began for the most challenging of the part-time bachelor's degree programmes - that of the School of Humanities. The new programme, to be implemented in 1983, will make extensive use of written and other materials prepared in advance to allow private study at times convenient to individual students; reduction of attendance at the University to the times most advantageous to the students' own work; and variable rates of progress including the possibility of 12 months study per year. By 1983, therefore, four of the five Schools of the University will offer the option of a separately designed and structured part-time programme (in contrast to part-time participation in a standard bachelor's degree programme).

Bachelor's Degree with Honours Programmes

The first four Schools of the University all offered the opportunity for graduates to undertake honours programmes in 1978. The intakes into these programmes have not been confined to bachelor's degree graduates of the Schools of offer. Graduates of other tertiary institutions have also been admitted.

Coursework Master's Degree Programmes

Following the implementation of the bachelor's degree programmes in the first four Schools of the University, planning began for the introduction of coursework master's programmes. The first two of these were offered in 1976: a three-year, part-time Master of Science programme in Science, Technology and Society was offered by the School of Science. The programme proved extremely attractive to applicants and 11 students, including senior administrative and executive staff from government departments and senior teaching staff from other tertiary institutions, formed the first group of students. The popularity of the programme led to a second intake of students in 1977.

The School of Australian Environmental Studies also offered its part-time Master of Science programme in Environment, Resources and Society for the first time in 1976. This two-year, part-time programme was also very well received, and 17 students were admitted from a large number of applicants. A two-year, part-time master's programme in Australia-Asia Relations was offered by the School of Modern Asian Studies for the first time in 1981, and 17 students were enrolled in the first intake. Planning for a coursework master's degree to be offered by the School of Social and Industrial Administration in 1983 was started in 1981, but implementation depends to some extent on the outcome of the Report of the Ralph Committee of Inquiry into Management Education.

Ten years after its establishment, the University remains committed to the major tenets of its academic philosophy. Fears and predictions that the University would fall prey to the degenerative influences of departmentalism - the breaking down of the interdisciplinary organizational units into their mono-disciplinary parts - have not materialised. Indeed, it would be true to say that the commitment to interdisciplinary team-teaching and research was stronger at the end of 1981 than in the early 1970s, the advantages of these arrangements having been appreciated through actual implementation. (The Research Report, which forms part of this Annual Report, elaborates on the many interdisciplinary research projects which have received substantial external funding support).

DEVELOPMENTS IN 1981

Bachelor's Degree Programmes

For the Schools of Australian Environmental Studies, Humanities, Modern Asian Studies and Science, 1981 was principally a year of further consolidation of the organization, content, and
methods of assessment of their respective degree programmes. In all Schools, review of all aspects of the bachelor's degree programme continued, with consequent decisions to improve courses in the light of experience.

In the School of Australian Environmental Studies, bachelor's degree students had an array of 42 main study (second and third year) courses from which to build upon their chosen specialisations:

- Human Society and Environmental Management.
- Environmental Pollution and Health.
- Ecology and its Application.
- Mathematical and Systems Ecology.
- Land and Water Processes.
- Resource Planning.
- Political Economy and the Environment.
- Mathematical and Statistical Models and Analysis.

However, recent pressures arising from financial constraints have provoked a close examination of the range of offerings for both full-time and evening part-time students.

Planning began in early 1980, for the introduction of specifically scheduled evening courses to cater for the 1981 intake of part-time students who will reach the second level stage in 1982. When the part-time programme was first introduced in 1980, its theme was "Environmental Management" and it was intended that the main study courses would principally be in the social sciences. It is interesting to note that many of the continuing students have since indicated that their interest is more in the Mathematics and Ecology areas.

In 1981, the School of Humanities offered four Main Study Programmes which had been available in previous years, namely:

- Comparative Literature and Social History: a synchronic study of twentieth century literature and history, and of the associated artistic and social movements.
- Forms of Communication: an investigation of the role of techniques of representation in a variety of fields.
- Society and the Media: a study of modern mass media focussing both on the media texts themselves, and the conditions under which they are produced, circulated and consumed.
- Structure of Society: an examination of the development of the political, economic and ideological structures characteristic of contemporary societies, employing a range of social science perspectives.

The School expanded its offering of Main Study courses, with the introduction of a course on "Political Behaviour". The course deals with the questions of how and why personality can be related to politics, and attempts to elucidate the bases for, and the limitations of, studies of personality and behavior as a means for understanding society. The course stimulated a great deal of interest, and attracted an unexpectedly large enrolment.

The Humanities honours programme was restructured: the General Seminar, the nature of which had led to a number of problems for honours students, was replaced by a series of specialist seminars from which students chose two in the first and one in the second semesters of their enrolment.

The geopolitical regions on which the School of Modern Asian Studies focuses its primary interest have remained unchanged since teaching began in 1975: these are China, Japan and Indonesia and the Malay World.

During 1981, the School of Modern Asian Studies continued its development of an interdisciplinary bachelor's degree programme. In 1979, a new Foundation Programme had been introduced, in response to criticism that the original 1975 Programme was too strongly biased in favour of history at the expense of other social sciences like economics and anthropology, and not genuinely interdisciplinary. In subsequent years, further improvements had been effected. In 1981, substantial efforts were made to adjust the economics segment of the programme, to make it better integrated with the remaining segments, and clearer for the students to follow.

Similar changes have been made to the Main Study Programme. The 1976 Main Study Programme allowed students to specialise in only one area of study. This was modified in 1980, to require students to choose at least two out of five core courses. Problems with the integration of the core courses led to further modifications in 1981. Both staff and students have expressed satisfaction with the result.

New Main Study courses were offered on Literature in Chinese Society, Modern Japanese Literature and Chinese language.
In 1976 the School of Science offered four concentration areas taught by 27 faculty staff to 73 students. In 1981, 34 faculty staff taught courses in the following eight concentration areas, to 177 Main Study students:

- Physical Mathematics.
- Electronics and Scientific Instrumentation.
- Experimental Physics.
- Chemical Physics.
- Chemistry.
- Biological Chemistry.
- Biochemistry.
- Life Sciences.

In 1981, the introduction of courses in "Clinical Biochemistry", and "Electronics and Scientific Instrumentation" increased the range of employment-oriented courses. Some consolidation of the teaching activities of the School was also achieved by the restructuring of the Chemical Physics and Chemistry concentration areas. There was continued liaison with the School of Australian Environmental Studies in computing courses, and the School offered a course on "Instrumentation Techniques and Quantitative Analysis" to students of the School of Australian Environmental Studies.

In 1973, the introduction was considered of a four-year bachelor's degree programme combining a study of some branches of science with a study of Japanese life and language. This programme was primarily for training scientists to develop a real feeling for Japanese culture, and the ability to speak the Japanese language. Such people were seen as having a vital role in Australia's relations with Japan.

The first students of the programme were admitted in 1978, and the first graduand completed the requirements for the degree of Bachelor of Science with Japanese [BSc(Jap Lang)] at the end of 1981.

The School of Social and Industrial Administration continued a period of intense growth and development in 1981. During the year, the School implemented the first year of its Main Study Programme; accomplished the intricate task of designing its final year courses; and appointed new staff to teach and conduct research.

In 1980, 157 students were admitted into the foundation year of the Bachelor of Administration programme - a substantial and promising increase over original forecasts. This trend continued in 1981, when 180 new students were admitted. The strong demand from both mature-age applicants and school leavers continued. Indeed the demand from mature-age students, and particularly from those in full-time employment, was so strong that the School decided to offer a separate part-time Bachelor of Administration Programme in 1982.

The introduction of the first year of the Main Study Programme and detailed planning of third level courses dominated the School's activities during 1981. One hundred and two students proceeded into the Main Study Programme, which offered opportunities for specialization in two of five concentration areas:

- Financial Administration and Accounting.
- Personnel and Industrial Relations.
- Economics.
- Information Systems.
- Marketing.

The Personnel and Industrial Relations concentration area attracted by far the largest number of enrolments; interest in the other concentration areas was evenly distributed. Many students took the opportunity to undertake two courses from each of two concentration areas, thus delaying the final choice of concentration area until the third year.

One of the most challenging tasks in maintaining the Main Study was the development of the Internship Programme - the placement of all third year students in the equivalent of a seven-week field research and employment programme. The programme was introduced to the public by an open meeting early in the year, and a series of follow-up visits to organizations by faculty members, throughout the year. Public response to the Programme was very strong: the School received more internship offers from organizations than it will be able to fill in 1982.

In the Language Centre, a number of new courses were introduced. These included the honours Japanese course; fourth year Science with Japanese; and restructured and additional Chinese third year courses.

Increasing numbers of students who have undertaken Language Centre courses are successfully competing for and undertaking overseas language studies (either as a continuation of their Griffith studies, or at postgraduate level). They are also successfully competing for employment in which language skills
are a criterion for selection. During 1981, there was a marked increase in the proportion of graduates engaged in foreign language teaching in Queensland schools.

In 1981, 262 students completed programmes of study which qualified them for the award of bachelor's degrees. Twenty-eight of these qualified jointly for the award of a Diploma in Teaching (Secondary) from the then Mt. Gravatt C.A.E. Forty-four students qualified for the award of bachelor's degrees with honours in 1981.

Coursework Master's Degree Programmes

Thirty-three students commenced the second and final year of the Master of Science programme in the School of Australian Environmental Studies. Students of the School of Science's Master of Science programme in Science, Technology and Society completed the coursework segment of the programme in 1981 and began work on their dissertations. A new programme began in July, with 21 students. The revised programme includes a number of changes in coursework and also a change in the assessment of student progress, to give early warning of students with learning difficulties.

The School of Modern Asian Studies admitted 17 students to its first Master of Arts programme on Australia-Asia Relations. This programme, like the other two, is offered on a part-time evening basis. The next intake into the programme is planned for 1983.

Reference has been made elsewhere in this Report to the planning which has begun for a Master of Administration programme in the School of Social and Industrial Administration.

STUDENTS

Undergraduate Students

In 1975, the University began teaching with 387 full-time and 46 part-time bachelor's degree students. It was an early decision that access to university education should be available to persons other than those with secondary school qualifications. Up to 20% of students admitted to bachelor's degree programmes in 1975 and 1976, were special admission candidates. Special admission students are highly motivated and achieve good or outstanding results. The number of students undertaking their degree by part-time study increased dramatically in 1978 with the introduction of an evening part-time programme in the School of Modern Asian Studies.

Since 1977, most applications for admission to the University's bachelor's degree programmes have been processed through the Queensland Tertiary Admissions Centre. The percentage of students coming directly from secondary school varies from 40% to 70%, depending upon the number of full-time and part-time places offered each year. Most students proceeding directly from secondary school enter full-time programmes. In addition to direct school-leavers, and students admitted under special admission provisions, the University admits people who matriculated some years ago but did not proceed to tertiary study, people who have undertaken tertiary study elsewhere without taking a degree or diploma, and people who have graduated from another tertiary institution and who want to undertake further study.

Growth in Student Numbers

The University has been asked by the Commonwealth Government to take increasing numbers of students. In general, the University has been able to meet the annual admission targets set for it. The numbers of enrolled students by School are shown in the table "Enrolments 1975-81" on page 11.

The number of new students admitted in 1981 was 828, compared with 766 in 1980. This growth was made up largely of increased intakes in the School of Australian Environmental Studies.

The University takes steps to make itself known to potential students. The school information programme for Grade 12 students has entailed visits by staff to secondary schools, attendance at school "Career" days and evenings, visits of students to the University campus, and schools and seminars for students, their teachers, and guidance officers. Seminars have been run for mature-age people contemplating applying for admission. An open day was held in 1981 to inform members of the community of the University's research, teaching, and public service activities. A particular objective has been to make information available to country students and their parents to assist them in choosing avenues for further education.

For students, the University of 1975, with 851
students was a quite different experience to the University of 1981, with 2,228 students enrolled. In 1975, there was no University residential accommodation for students. In 1981, 400 students were resident in The Village. In 1975, only 53 or 11.7% of students, were part-time students. In 1981, this figure had grown to 609 or 27.3% of the total number of enrolled students.

Postgraduate Research Students

Since its inception, the University has offered research postgraduate programmes of study leading to the degrees of Doctor of Philosophy and Master of Philosophy, in each of the Schools and academic service Centres.

The University admitted its first research postgraduate student to Master of Philosophy candidature in 1973. By 1975, there were four full-time and five part-time Master of Philosophy candidates and seven full-time and two part-time Doctor of Philosophy candidates enrolled.

There is a strong demand from well-qualified applicants for admission to research postgraduate programmes at the University. In 1981, there were 65 full-time and 82 part-time students working towards postgraduate degrees by research.

Applications have been particularly strong for the Schools of Australian Environmental Studies and Science, which have attracted a large number of research students from interstate and overseas. The quality of applicants can be gauged from the growth in numbers of Commonwealth Postgraduate Research Awards allocated for study at the University. The number of these has risen from two in 1974 to 10 in 1981.

Since 1975, the University has conducted the Griffith University Postgraduate Research Award Scheme, under which postgraduate research scholarships are given with very similar terms and conditions to Commonwealth Postgraduate Research Awards.

JOINT BACHELOR'S DEGREE - GRADUATE DIPLOMA IN TEACHING PROGRAMME

To assist its students to pursue teaching as a career, in 1973 the University and the then Mt Gravatt C.A.E., designed a joint programme of study spread over four years, to qualify students for the award of a bachelor's degree and diploma in teaching. In February 1977, the first students entered the Programme.

Although there have been a number of changes and refinements made to the structure of the Programme since 1977, its primary characteristics have remained. Griffith students apply to enter the Programme in September of the second year of their bachelor's degree programme, and spend a further two years studying in the University and the College. Successful applicants complete the prerequisite courses necessary for them to specialize in two secondary school teaching subjects.

In 1978, the first group of students completed the Joint Programme. Thirty-one students graduated with either a Bachelor of Arts or Bachelor of Science degree from the University and a Graduate Diploma in Teaching from the Mt. Gravatt C.A.E. In 1981, 28 students graduated making a total of 113 students who have completed the Programme since its inception. These students came from the University's four foundation Schools. During 1981, arrangements were agreed to for students from the University's fifth School, Social and Industrial Administration, to enter the Programme. There

Enrolments 1975-81

<table>
<thead>
<tr>
<th>YEAR</th>
<th>BACHELOR'S DEGREE</th>
<th>HIGHER DEGREES</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full-time</td>
<td>Part-time</td>
<td>Full-time</td>
</tr>
<tr>
<td>1975</td>
<td>387</td>
<td>46</td>
<td>11</td>
</tr>
<tr>
<td>1976</td>
<td>736</td>
<td>35</td>
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<td>1977</td>
<td>1077</td>
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<td>1978</td>
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<td>1979</td>
<td>1354</td>
<td>141</td>
<td>43</td>
</tr>
<tr>
<td>1980</td>
<td>1316</td>
<td>302</td>
<td>47</td>
</tr>
<tr>
<td>1981</td>
<td>1354</td>
<td>461</td>
<td>65</td>
</tr>
</tbody>
</table>
has been an exceptionally high rate of employment among graduates of the Programme. They have gained a wide range of teaching positions in secondary schools in Queensland, interstate, and overseas. A great deal of favourable comment about the quality of these graduates has been received by the University. During the early years of the Programme, a number of students were awarded State Teacher Scholarships for their two years of combined study. Since this scholarship scheme has been discontinued, a number of students have been awarded Teaching Bursaries.

The Joint Programme has provided an excellent example of co-operation and collaboration between the two education institutions. One of the major strengths of the Programme is the integration of university studies with teacher training. This assists students to relate their academic fields of interest to teaching and also to maintain currency and interest in their degree programmes. The level of commitment to teaching is generally very high, as students must make the choice to enter the Joint Programme at an early stage of their University studies. In addition, the early experience of practice teaching enables students to judge quickly whether or not they are suited to a teaching career.

With four years of graduates now working in both state and private schools in Queensland, the Joint Programme is well regarded as a successful and valuable alternative to other methods of secondary teacher training.

EXCHANGES OF STUDENTS WITH OVERSEAS UNIVERSITIES

Under an exchange agreement with the Daito Bunke University in Japan, one Japanese student has spent a year at the University each year since 1976. In 1980, four reciprocal arrangements were made with institutions in China and Japan. During 1981, further exchange agreements were drawn up with Chinese and Japanese institutions and for the first time, with Indonesia. A new agreement with the Sichuan University was signed in October, when a party of Vice-Presidents of Chinese Universities paid a visit to the University.

In late September, a student of the School of Modern Asian Studies left to study and work under a Work Experience Programme at the Centre of Environmental Studies, University of Indonesia. An agreement reached with the Sun Yat-Sen University in Guangzhou was brought into effect when two students left in March for five months' study at that University. In September, a further two students left for six months' study at the Sun Yat-Sen University.

The first exchange student from Sun Yat-Sen University will arrive early in 1982 to study in the School of Science. In the meantime, the first exchange student from the Beijing Institute of Foreign Languages spent 1981 in the School of Humanities, writing a postgraduate dissertation. In return two Griffith students spent the second half of 1981 at the Beijing Institute.

Exchanges with Japanese universities continued successfully. A group of students from the Sonoda Women's College visited the University in July and August. Five Griffith students left for Sonoda at the end of 1981. Two students left to study at the Otaemon-Gakuin University late in 1981. One Griffith student received an Australia-Japan Foundation Grant to enable him to study Japanese at the Australian Universities Centre, prior to spending a year at the Daito-Bunke University.

GRADUATE EMPLOYMENT

The University's most important early academic planning decision - that its bachelor's degree programmes would take an interdisciplinary, problem-oriented approach to its defined areas of concern - reflected the University's objective of offering an alternative approach to university study in Brisbane. The University hoped that this approach would result in flexible, resourceful graduates well-equipped to adapt to demands of a volatile employment market.

The University knew that its innovative approach could raise initial difficulties in the placement of its first graduates. It was uncertain how employers, long used to the traditional disciplinary labels to describe areas of academic training, would react to the University's relatively unfamiliar degree labels and programme structures. This question could only have been answered in 1978, when the University's first graduates started work in a variety of occupations, and with a wide range of employers.

Many employers of the University's graduates were approached in 1978, and again in later years, for appraisal of the performance of these graduates. The responses were overwhelmingly positive.

A noteworthy development in employment patterns is the growing recruitment of graduates by the
retail, banking, and personnel sectors, and certain administration areas in both the private and public sectors, which previously recruited school leavers, or relied on the professional development of existing staff for future management roles. Many manufacturing and marketing organizations which have not previously recruited graduates are now employing them as management trainees. It also appears that the travel and tourism industries, with tremendous potential in Queensland, are increasingly recognizing the importance of employing graduates with either specialist (for example, in languages) or generalist skills.

Since 1978, an annual survey has been carried out on the destinations of recent Griffith graduates. This is a survey of graduate destinations as at April each year (shortly after graduation), and is part of a national graduate destination survey. Responses to the April, 1981 survey indicated that some unemployed graduates were, for a variety of reasons, restricted to Brisbane in their search for employment. Other graduates took extended holidays upon completing their studies, and started looking seriously for work only in March or April. Consequently the April survey did not necessarily give a clear indication of the extent to which graduates were experiencing difficulties. For this reason, a follow-up survey of those Griffith graduates shown to be seeking employment in April, was carried out in September, 1981. The majority of those who responded to the follow-up survey had gained employment by August. The 1981 survey findings showed a slight increase in the proportion of 1980 graduates in full-time employment (66%) and a small decrease in the proportion entering further full-time studies (32%), compared with the 1979 graduates (43% and 34% respectively). The proportion of 1980 graduates which was unemployed and seeking full-time employment in April was 8% (7% for 1979 graduates). A further 5% were employed casually or part-time employed and seeking full-time employment (5% for 1979 graduates).
As the following table indicates, in comparison with the 1979 graduate cohort, smaller proportions of 1980 graduates were employed in the Queensland Public Service, and in teaching; higher proportions were employed in the tertiary education sector, and in industry and commerce. Graduates completing the Joint bachelor's degree - Diploma in Teaching programme offered in conjunction with the then Mt. Gravatt C.A.E. were very successful in obtaining teaching positions in 1981 - as they had been in the previous years.

<table>
<thead>
<tr>
<th>Sector</th>
<th>% 1979 Graduates</th>
<th>% 1980 Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian Government and Authorities</td>
<td>23</td>
<td>22</td>
</tr>
<tr>
<td>State Government and Authorities</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>Primary and Secondary Schools</td>
<td>24</td>
<td>17</td>
</tr>
<tr>
<td>Tertiary Education</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Private Industry and Commerce</td>
<td>29</td>
<td>32</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

As in previous years, 1980 graduates of the first four Schools of the University obtained work in a great variety of positions: amongst others, graduates from the School of Australian Environmental Studies obtained positions in computer programming and analysis; soil conservation; wildlife management; pollution control; teaching, tutoring and research. Science graduates obtained work in areas like pathology, quality control, teaching, tutoring, research and food technology. Positions obtained by Humanities graduates ranged from positions in the various communication media, librarianship and teaching to travel counselling, marketing, banking and trainee retail management. Graduates from the School of Modern Asian Studies likewise obtained employment in a wide range of positions ranging from trainee hotel management to non-technical research. Many graduates from this School also gained employment as Foreign Affairs trainees, Assistant Research Officers with the Department of Defence, and Trade and Resources, as well as the Australian Development Assistance Bureau.

The majority of 1980 graduates who continued with further full-time studies upon graduation were enrolled in honours or doctoral degree programmes, and the Graduate Diploma in Secondary Education programme. Studies were also undertaken in a range of studies leading to professional qualifications e.g. librarianship, law, nutrition and dietetics and social work. Other graduates were enrolled in a variety of other postgraduate diploma or bachelor's degree courses and overseas language studies.

From 1982 onwards, the number of students graduating from the University will substantially increase. This is because in that year, many of the students of the first intake into the Bachelor of Administration degree programme will complete degree requirements. The number of research postgraduate students has gradually built up over the years so that now there is a steady flow of such students submitting their master's and doctoral dissertations for examination. The University is proud of its record in graduating educated and trained men and women for life, work, and further study. It believes it is making an increasingly valuable contribution to education, and to the provision of skilled manpower for the nation.

The Office of the Vice-Chancellor 1971-1981

Professor F.J. Willett was appointed Vice-Chancellor of Griffith University in November 1971. As the University has grown so has the Office of the Vice-Chancellor. In 1979, the Council established the post of Pro-Vice-Chancellor, a part-time appointment filled for a term from among the senior faculty staff. The first Pro-Vice-Chancellor was Dr R.A. Ross, who held office until the end of 1980. Dr Ross was succeeded by Professor R.D. Guthrie who resigned in October 1981 to take up the appointment of Secretary General of the Royal Society of Chemistry. Dr R.S. Holmes was then appointed Pro-Vice-Chancellor.

The Office of the Vice-Chancellor is, necessarily, the central focus of the successful effort by the University to adapt to the changing environment of higher education; contracting resources to be set, in Queensland at least, against strongly growing demand. The University has to strive for maximum efficiency in the use of resources whilst retaining academic excellence, a high standard of innovative teaching and the flexibility needed to respond to changing demands made by students and the community.
During 1981 the Vice-Chancellor was Chairman of the Joint Advisory Committee on Post-secondary Education in Queensland and Chairman of the Board of Management of the Queensland Tertiary Admissions Centre. He served on the Executive of the Australian Vice-Chancellors' Committee and on the International Relations Committee of that body. He was a member of the Australia-China Council.

Through the Office of the Vice-Chancellor, arrangements were made to receive distinguished guests for the University:

- The Right Honourable D.S. Thomson, MC MP, Minister for Science and Technology, who officially opened the Brisbane Nuclear Magnetic Resonance Centre in May 1981. The Centre houses a CXP-300 NMR instrument valued at $364,605 purchased as a joint venture with the University of Queensland and the Queensland Institute of Technology.

- The Honourable W.D. Hewitt, MLA, Minister for Environment, Valuation and Administrative Services, visited the University in February 1981. He subsequently visited first year students of the School of Australian Environmental Studies at the Tallebudgera National Fitness Camp, having their first University exposure to a study of the environment.

- Four distinguished Indian academics visited the University in July. Professor Sivalingan, Vice-Chancellor, Perarigna Anna University of Technology, Professor Ramachandra Rao, Vice-Chairman, University Grants Commission of India, and Professor Sharma and Mrs Sharma (also Professor and an eminent academic), University of Calcutta. The visitors were sponsored by the Australian Government and the opportunity was taken to discuss mutual interests and problems in teaching, research and research funding.

- Professor Toshio Sawada, the President of Kyoto University and Professor Tohru Komano, from the School of Agriculture in the same University, visited the University in September, 1981 under the auspices of the Australian Vice-Chancellors' Committee. Faculty staff of the Schools of Science and Australian Environmental Studies discussed their current research and new developments in the life sciences and environmental hydrology.

- During October, the University was host to eight Vice-Presidents of Chinese Universities, during a visit sponsored by the Department of Foreign Affairs and the Australia-China Council. The guests expressed a great deal of interest and enthusiasm for the teaching and research facilities at the University. During the visit the Vice-Presidents met Chinese teaching and general staff in the University, and Chinese students from other tertiary institutions in Brisbane. At the conclusion of the visit, a preliminary student exchange agreement with the Sichuan University of Chengdu was signed.

- The Australian Vice-Chancellors' Committee met in Brisbane in April 1981.

- During the year 36 Senators and Members of the State and Commonwealth Parliaments visited the University to see at first hand the continuing development of the University. The guests were entertained to lunch in the Village dining halls by resident students from their electorates and members of staff.

THE CENTRE FOR THE ADVANCEMENT OF LEARNING AND TEACHING (CALT)

One of the University's earliest academic statements of intent reads:

"Emphasis will be placed on providing support facilities for university teachers. The University will develop the capacity to assess its own teaching effectiveness. A Centre for the Advancement of Learning and Teaching will be included in the early stages of development of the University." (Annual Report for 1971.)

The Centre was seen as having the principal tasks of participating with faculty in the creation of course curricula, the setting up of teaching teams, the development of teaching and learning procedures and materials, and the introduction of appropriate methods of assessment.

The Centre's principal early activity was in course planning, with specific assistance given to the design of laboratory notes, student notes, seminar programmes and assessment procedures. Later, assistance was given in the detailed design of assessment items, evaluation programme and grading procedures. The Centre also assisted, where appropriate, in the determination of University academic policy.
Audio-visual software production and hardware maintenance service began in 1975. Early activities in this area included organizing the layout and artwork of major University publications; carrying out film projection services; video recording; audio-recording and playback of lectures; and conversion of lecture theatres to ensure suitability of use with audio-visual material. By 1976, the demand from University elements for various aspects of service from the audio-visual section of CALT was three times that in 1975.

From 1976, the CALT contribution to course planning changed from design to co-ordination. More time was spent in course review, assistance to policy determination and guidance to teaching or planning teams. These activities were represented by contributions to the Academic Committee, School Standing Committees, Assessment Boards, and School co-ordination and overall planning groups. Apart from these general contributions, CALT gave specific advice and assistance in a range of issues from the design of programmes to help students develop writing ability, to surveying of student attitudes to courses and teachers for the staff of the School of Modern Asian Studies and the Language Centre.

Since 1979, CALT has been deeply engaged in the design of the first courses for the School of Social and Industrial Administration. One of the most important activities during 1981 was the Centre's representation on the School of Humanities Part-Time Degree Programme Planning Team. Help was given to the School of Social and Industrial Administration in the design of its third year courses. A member of CALT also participated in the initial planning of the degree programme in computing studies, and the Centre was involved in a wide range of evaluative activities which took place in every School.

During 1981, the demand for CALT audio-visual services continued, with increased demands for routine work (production of illustrations, graphic design work, publications, photographic prints and slides) accompanied by a corresponding growth in requests for high quality production and design.

Growing demand for high quality production work in the electronic media was encouraged by the introduction of 76 mm production as an addition to the CALT audio-visual media service in 1981. An initial useful work was carried out on nuclear magnetic resonance for the School of Science, and on construction development work for the Site and Buildings Division. The graphic design studio also made important contributions on electronic media production, as for example, in the creation of animation sequences for the University's information film.

**RESEARCH CENTRES**

At the end of 1981, each of the first four Schools had established a research centre, to conduct research in one of each School's fields of interest. Many of these Centres also provided consultancy services for scholars, governments, business, and the community in general.

The Institute of Applied Social Research (IASR) in the School of Australian Environmental Studies was established in 1977 with a foundation grant from the Hancock Brothers - Messrs V.M. and J.P. Hancock. Research in IASR has focussed on a number of major themes in response to community needs and the interests of staff who have participated in IASR activities. Some of these themes are:

- Impact studies of major projects and planning proposals including the declaration of the Cairns section of the Great Barrier Reef Marine Park; irrigation development in the Upper Darling Basin; the South-East Queensland pulp mill; and land development in the Hinchinbrook area.
- Fisheries economics and management studies, covering most sections of the Great Barrier Reef and South East Queensland.
- Evaluation of government programmes such as the Queensland Defensive Driving Course.
- Studies of attitudes to environmental degradation and related policies including industrial pollution abatement and soil conservation.

It will be clear from the above, that one of the principal features of the work of the IASR has been its interdisciplinary team approach. Each project has involved a range of social science expertise covering economics, sociology, political science and psychology, and related bio-physical and engineering expertise in areas like soil science, hydrology, acoustics and marine biology. The use of interdisciplinary teams has enabled the Institute to tackle a range of problems beyond the scope of mono-disciplinary groups.
Among the IASR's activities during 1981 were:

- the completion of an economic impact study of the main activities undertaken in the Cairns section of the Great Barrier Reef Marine Park. The study applied the input-output technique to estimate the employment, income and output multipliers associated with tourism, commercial and recreational fishing, and other recreational activities. This research, which was commissioned by the Great Barrier Reef Marine Park Authority, should provide very useful information for the planning and management of the Cairns section of the Park.

- research into several aspects of fisheries management. During 1981, a report of a study on the Economic Characteristics of Fishing in the Great Barrier Reef (other than the Capricornia section of the Marine Park) was completed. A publication entitled "Summaries of Recent Investigations with an Emphasis on the Structural and Economic Characteristics of the Australian Fishing Industry and in particular the Queensland Component of the Industry", which brings together a number of reports on the fishing industry in recent years, was produced. A major, and highly successful conference on the management of Queensland Fisheries was held at the University on 4-5 August 1981. One hundred and forty delegates from as far afield as South Australia and Tasmania attended. The keynote speaker was Professor J. Crutchfield, Professor of Economics, University of Washington, Seattle.

- the completion of text of a booklet on the economics and social value of National Parks and similar reserves, commissioned by the Australian Conservation Foundation.

- a survey of public opinion on sand-mining on Moreton Island, commissioned by the Queensland Conservation Council.

- the continuation of the project "Bases of Industrial Pollution Abatement Change in Australia". The aim of this study is to research factors of industry structure and decision-making associated with strategies of industrial waste disposal and treatment.

In 1976, the various research interests of faculty staff which found common ground in biography, led to the formation of the Institute for Modern Biography (IMB) within the School of Humanities. The Institute was established with the objective of, in time, acting as a focus for biographical studies - literary, historical, artistic and political - within Australia. The initial University grant of $10,000 for the Institute's establishment was used to acquire books and tape recorders. The aim of these was to build up a library of taped interviews with important Australian literary and political figures, for biographical use in the future; and the organization of seminars and lectures by established biographers, from within Australia and overseas. This was followed in later years, by the acquisition of recently published biographies and related materials. The biography collection increasingly draws scholars to visit the Institute.

The IMB has been approached by academics seeking help in establishing biography courses in other tertiary institutions. The IMB has given assistance and advice in the establishment of courses at the universities of Sydney, Melbourne and Auckland.

Since 1979, the IMB has published a bi-annual newsletter. Over the years, the newsletter has grown in size and now usually includes a substantial paper on some aspect of biography, theory or methodology, and an increasing number of serious book reviews. Its success outside the university sector is evident from the growing number of books it attracts from commercial publishers for review. Its success as a forum for biographers and a clearing point for information is manifest in the volume of correspondence it generates to the Director, and the increasing requests for back copies. In 1981, the newsletter mailing list was 1,300, with requests for a further 50-100 copies after each mailing.

The first book wholly produced by the IMB, was published in 1981. "Reading Life Histories: Griffith Papers on Biography" was edited by the IMB Director Dr J. Walter, and distributed by the ANU Press. The book is an anthology of biographical papers and papers on theory and method from contributors at Griffith, elsewhere in Australia and overseas. Planning for a second book on modernism and modernists in Australia has begun, with a target publication date of 1983.

In 1981, the University awarded an honorary fellowship to Professor R. Joyce of La Trobe University, to complete a biography of Sir Samuel Griffith. The facilities of the IMB and help from the Institute's research assistant have
enabled Professor Joyce to substantially complete his manuscript. Professor Joyce’s fellowship will continue for 1982 while the manuscript is prepared for publication.

The Centre for the Study of Australian-Asian Relations (CSAAR) was established in the School of Modern Asian Studies in late 1978, to carry out research on contemporary policy issues in Australia’s relations with Asia. Over the last three years, the Centre has been concerned to identify major policy issues in Australia’s bilateral and multilateral relationships with Asian countries; to encourage Australian and Asian researchers to undertake original research on these issues; and to publish the results of that research as widely as possible.

The Centre has focused its research by using two criteria: the issues studied should be of significance to the contemporary policy concerns of Australia; and the Centre should not duplicate research being carried out elsewhere.

From its inception, CSAAR has taken a strong interest, along with its study of national policies, in Queensland’s relations with Asia. The Centre’s location in Brisbane, and the burgeoning of Queensland’s links with Asian countries—particularly Japan—have made this a fruitful area for research, and one which can attract strong local interest. In the last three years, four major topics of research with a Queensland focus have been developed, although the Centre’s primary attention remains with national issues.

1980 saw the publication of the reports from several research projects begun two years earlier. These included a major study on the entry and settlement experiences of Vietnamese refugees in Australia; a history of Australia-China relations since 1966; and Australia’s relations with the Association of South East Asian Nations.

1981 saw the publication of the reports from several research projects begun two years earlier. These included a major study on the entry and settlement experiences of Vietnamese refugees in Australia; a history of Australia-China relations since 1966; and Australia’s relations with the Association of South East Asian Nations.

In 1981, at the request of the Executive Committee of the Queensland Branch of the Australian Institute of International Affairs, CSAAR took over the editing and publication of the Institute Journal “World Review”. Each edition of the journal which appears quarterly, carries some six or seven articles on a theme current in international politics. The four issues in 1981 dealt with population and migration; Indochina; Afghanistan and Iran; and the ‘Balance of Terror’. While the transition to publication of the journal at the Centre has been successful, it has meant a significant addition to the workload of the Centre.

The major research project in 1981 was the continued study of Vietnamese migration to Australia. This work is directed by the CSAAR Director Dr Nancy Viviani, and is funded by a Griffith University Research Grant. The research concentrates on Australian government policy on the entry of Vietnamese in the period 1975-1980, and the problems relating to the settlement of Vietnamese in Australia. In August and September 1981, the Director visited Vietnam and Kampuchea at the invitation of the Institute of Social Sciences, Hanoi. The visit resulted in further information for the Vietnamese study and the establishment of links between the Centre and Vietnamese academic institutions. Research on the project was completed in 1981 and a complete manuscript should be published in 1982. The research continued to attract interest from other scholars. By the end of the year, six papers on Vietnamese immigration to Australia had been published by the Centre, with two more research papers planned for 1982.

Other studies begun, in progress or completed during 1981 were on Australia-China political relations, post 1966; Australia-China trade; Australia-ASEAN relations; Australia-Indonesia relations; Australia-Japan relations (a survey of Japanese perspectives on Australian industrial relations disputes over the last decade); and the Queensland coal industry and its relations with Japan. Funding for many of these projects was provided by the University; the Australia-China Council gave grants for the two projects involving China. Other research being undertaken under the auspices of CSAAR include federal-state relations in the resources industry; policy making in Australia-ASEAN relations; and Australia-Singapore relations.

Research on Australia-ASEAN relations took a new direction in 1981 when work began on an ASEAN-Australia joint research project on trade in manufactured goods, sub-project “Market Survey and Competition”. This work is funded by the Australia-ASEAN Research Project at the Australian National University and is CSAAR’s first major collaboration with that institution.

The Director was invited by the editors of the Australian Bicentennial History to contribute to this work with a chapter on Australia’s foreign relations in the post-war period. Dr Viviani was also asked to write the Australian Foreign Policy Chronicle for 1981, in the May issue of the
"Australian Journal of Politics and History". CSAAR has developed a valuable research collection on Australian-Asian relations which includes both published and unpublished papers, government documents and statistics, Asian publications and a comprehensive newspaper clippings system. The collection is regularly consulted by staff, students and visitors.

The Science Policy Research Centre (SPRC) of the School of Science was established in 1976 to provide a focus for studies of science policy within Australia and South East Asia. Work undertaken by the SPRC since its inception has included advice to government departments and professional associations on aspects of Australian policy in science and technology. In 1973, the Director gave evidence to the Senate Standing Committee on Science and the Environment.

1981 was a year of major achievement for the SPRC, with considerable progress being made in research. In particular, research on energy policy led to the Centre having a prominent role in the 51st ANZAAS Congress.

A research grant of $37,796 was awarded to the Director Dr I. Lowe by the National Energy, Research, Development and Demonstration Council, for a study of possible future patterns of energy supply and demand. In this project, comparative studies of the changing pattern of energy use in different industrialised countries have been conducted, providing insights into the likely pattern of future demand in Australia. Electricity demand forecasts by the various states have been analysed, revealing the problems of extrapolating past trends into the future. This work will be extended in 1982 to consider the implications of various possible future patterns of energy demand and supply.

A grant was also awarded for a study of changes in attitudes toward domestic energy conservation measures. This study followed a 1977 survey of attitudes and behaviour regarding energy conservation in the home. It aims to assess changes in knowledge of, and attitudes towards energy conservation in the home.

Other research projects being conducted under the auspices of SPRC are on the impact of conservation campaigns; alternative liquid fuels; impact of policies on solar hot water systems; and energy and housing.

The Centre attracted a steady stream of visitors during 1981. A highlight was the visit of a senior delegation from China which included the Vice-President of the Computer Science College, Beijing; the Division Chief of the State Planning Bureau; and the Deputy Director of the General Office, State Scientific and Technological Commission of China.

STAFFING MATTERS

The staff population of the University increased dramatically from four at the time of the promulgation of the Griffith University Act in 1971, to 199 in 1975, when teaching commenced.

During 1981 new appointments brought the total population to 526 equivalent full-time staff - comprising 218 faculty staff, and 308 professional, technical, clerical and other general staff. The increase in staff numbers during the year occurred principally as a result of the continuing development of the School of Social and Industrial Administration: the total staff numbers in that School increased from 24 in 1980 to 37 at the end of 1981.

A great deal of attention has been given to stimulating the professional and technical development of faculty and general staff members. The provision of such opportunities takes many forms - from provision of research opportunities both in the University and elsewhere, through assistance in the evaluation and improvement of teaching activities, to formal training programmes in particular skills and staff exchange schemes.

Since its earliest days, the University has organized programmes to introduce new staff to the University. In 1979 these were supplemented for the first time, by a series of general training courses and seminars. Since then, training programmes on a wide variety of topics - for example, supervision, committee work, secretarial skills, industrial relations, safety and accident prevention, interviewing techniques - have been conducted annually.

The University is currently considering the implications for faculty staff of the Report of the Australian Vice-Chancellors' Committee Working Party on Staff Development of March, 1981.

In 1981, the Training and Development Advisory Committee was established. The primary function of this Committee is to appraise and analyse the development and training needs of the general
staff, and of the faculty staff likely to be involved in administrative functions, and to develop strategies to enable these needs to be met. During the year, the Committee initiated a number of staff exchanges within the University to give staff experience in areas of activity different from their own, and to enable the development of new skills.

STAFF ABSENCES ON OUTSIDE STUDIES PROGRAMMES (OSPRO)

The provision of opportunities for faculty staff to carry out research or other scholarly activity outside the University is of great importance in maintaining and improving the quality of both teaching and research. Periods of study leave enable faculty staff to keep abreast of scholarly developments, or to use research facilities not available within the University. In 1977 the first 10 members of staff took advantage of study leave opportunities to research in a different environment. 1978 saw the publication of a Report by the Tertiary Education Commission on study leave for staff of universities and colleges of advanced education. The major impact of the Report was the limit placed on the maximum amount of study leave which could be permitted. This was defined as being not greater than seven per cent of available man-years of time of the grade of lecturer and above, averaged over the triennium. As a consequence of the Report, the length of an outside studies programme for individual staff members was also limited to six months, unless there were special circumstances to warrant a longer period of detachment.

The guidelines defined in the Report necessitated changes to the University's original study leave policy. During the 1978-80 triennium, the Council adopted a modified study leave policy consistent with the guidelines in the Report, thereby enabling the University to operate within the seven per cent maximum requested by the Tertiary Education Commission.

During 1981, 119 faculty staff members occupied positions in which they were able to accrue eligibility to undertake Outside Studies Programmes. The University approved the detachment on OSPRO of 16 of these staff members. Each was absent for an average period of 6.43 months. The cumulative total of OSPRO absences amounted to 103 man-months or 7.2% of the available time of staff of the grade of lecturer and above.

All the Outside Studies Programmes were concerned primarily with research. All but two of the programmes were taken overseas. Details of absences by Schools and academic service Centres are set out in the tables on page 35 of this Report.

INDUSTRIAL MATTERS

Prior to 1976, the Queensland universities were not active participants in negotiations on industrial matters. Until then, changes in the working conditions or salary scales of staff categories were initiated by the Council rather than effected in response to the determinations of an external arbitration system. In 1976, an Industrial Agreement between the three Queensland universities, and 17 trade unions was registered. This agreement remained in force from 21 December, 1976 until a new award became effective on 1 April, 1981. The new Award - the University Employees (General Staff) Award - State - involves the three Queensland universities and 20 trade unions.

In 1979, the University participated in an action for a general staff award before the Australian Conciliation and Arbitration Commission. The Commission accepted the submission that a satisfactory State provision exists, and handed down a decision in June, 1980 excluding the three Queensland universities from any proposed Federal Award.

The growing involvement of the universities in industrial matters for both general and faculty staff led to a decision by the governing bodies of the three Queensland universities to set up a joint Standing Committee on personnel matters. The Standing Committee, established in 1980, is responsible for advising the governing bodies on industrial matters of common interest to the three universities. The Standing Committee subsequently set up an executive group of senior officers and staff officers - the Queensland Universities' Industrial Negotiating Group (QUING) - to deal with industrial negotiations for general staff, and to research and exchange information on general staffing matters affecting all three institutions. During the two years of QUING's operation, a high degree of co-operation between the universities has been achieved, particularly on general staff matters.

HONORARY APPOINTMENTS

In 1980, the University Council approved provisions for the appointment of Honorary
Fellows. These appointments provide for scholars who normally work elsewhere to be associated with the work of the University, and sometimes to spend periods in the University. In 1980, seven Honorary Fellows were appointed. The following year, a further appointment was made.

The following Honorary Fellowships were current in 1981:

**School of Australian Environmental Studies**
- Mr W.H. Butler, CBE - Conservation Consultant
- Dr W. Dall, MSc PhD, DSc Q'ld. - Officer in Charge, Northeastern Regional Laboratories, CSIRO.
- Dr B.S. Niven, BSc S.A., MSc Witw., PhD Adel - Mathematical Statistician.
- Dr J.A. Redfield, BA BSc Wyoming, PhD Alta - Research Scientist, Division of Fisheries and Oceanography, CSIRO.
- Dr L.J. Webb, BSc MSc PhD Q'ld. - Senior Principal Research Scientist, Rainforest Ecology Unit, CSIRO.

**School of Humanities**
- Professor R.B. Joyce, BA LLB Syd., MLitt Camb. - Professor, Department of History, La Trobe University.

**School of Science**
- Mrs Florence Warren, BSc Liv. - Science Teacher.
- Dr D.J.W. Moriarty, BAppSc, PhD Adel - Senior Research Scientist, Division of Oceanography, CSIRO.

**THE LIBRARY**

The Library bought its first books in 1972. When it opened its doors to the first students in 1975, it had 28,000 volumes. By the end of 1981, its stock totalled 210,000 (including some 22,000 volume-equivalents in microtext and audio-visual formats).

Acquisitions in 1981 comprised 19,402 volumes. In recent years there has been a reduction in the annual acquisitions rate, mainly because of the relatively higher proportion of funds spent on materials for research purposes, which are on average more expensive than undergraduate books.

Research materials include in particular back-runs of periodicals. Over the years the Library has acquired substantial sets of major Australian and overseas newspapers; extensive runs of major bibliographic aids; and sets of a large number of individual periodicals. Many of the latter group were donations from other libraries and private individuals. Some important purchases in 1981 were: "Business Periodicals Index" 1958/59 – 1978/79; "Nihon Rodo Nenkan" 1920–1940; "New Left Review" 1960–1980; and "Summary of World Broadcasts (Far East)" from the BBC Monitoring Service, 1949–1975.

Because of inflation in overseas prices, it became necessary in 1981 to cancel 607 subscriptions to periodicals. At the end of 1981, 3,798 periodicals were regularly being received, some 40 per cent of which were free of charge (gifts, exchanges and items received as part of the Government Publications Depository Scheme).

No library is ever self-sufficient, but younger and smaller libraries have to lean heavily on older and larger libraries. At this University inter-library loans are restricted to faculty staff and postgraduate students. In 1975, the Library borrowed 1,252 items and lent only 36. In 1981, 4,989 items were borrowed and 916 lent. While these figures demonstrate our continuing reliance upon the collections of other libraries (mainly the University of Queensland, which supplied almost half) it can also be seen that the imbalance is being redressed.

The Library has consistently maintained a policy of securing the maximum return from its expenditure on books and other reading materials by stimulating their use, principally by means of information and advisory services to faculty staff and students, and by publications.* Although initial plans for such services have had to be curtailed for financial reasons, the

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Library still has on its staff specialists qualified in a range of subjects taught in the University, and its reference and bibliographic facilities are heavily used. This, combined with literature-oriented teaching methods in most Schools, has resulted in an exceptionally large number of loans for a university of this size.

Loans in 1981 totalled 153,014 - 59 per academic member (faculty staff and students). In 1980, the latest year for which comparative statistics are available, Griffith's loans of 64 per academic member were the second highest of Australia's 19 universities.

The Library's short history has been one of continuous growth in almost all its activities, despite restrictions on university funding; and in recent years it has maintained this growth without the expansion of staff. It will be assisted in continuing to meet growing needs by the installation in 1982 of a computer-based loan system, for which it is using facilities developed by the University of Queensland libraries. In 1981 the final stages of this cooperative venture were planned, a formal agreement between the two universities signed, a data-based prepared for the stocks of Griffith's library, and terminal equipment installed.

BOARD OF COMMUNITY SERVICES

The University has a single body responsible for sporting, recreational, catering, social welfare, and child care services on campus. This body, the Board of Community Services, consists of staff and student members of the University community.

The Board began operations in 1975, with three employees. In 1981 the Board employed over 50 people, including specialists in such fields as Child Care, Catering, and Recreational Planning and had a cash turnover for operation of over $800,000.

Campus sporting and recreational activities have increased markedly since 1980, when the Recreation Hall was opened in The Village. The Hall provides an indoor venue for basketball, volleyball and badminton, and gymnastic activities.

The Board has become heavily involved in the organization and funding of intra-mural sports programmes and group leisure activities. During 1981 the number of sports teams representing the University in local competitions continued to grow and the heavily supported intra-mural sports programme was expanded. Ventures into leisure classes involving the community at large met with mixed success but will continue in 1982 to help foster the policy of the University's involvement with the general community.

The Board provided food services for a large number of conferences and seminars held on campus. Profits from these functions allowed everyday food prices to members of the University to be held at an acceptable level. The loss suffered in 1980 was reduced from $34,000, to $4,000 in 1981.

Most clubs and societies in the University - 30 in all in 1981 - are affiliated with the Board, and are subsidized from Board funds. Direct funding of clubs and societies during the year totalled $19,000.

Members of the Board's staff, like staff from other elements of the University, were heavily involved with planning the University's activities during the XII Commonwealth Games in 1982.

Successive Boards have been conscious of the need for a flexible approach towards the management of its areas of responsibilities. Procedures and policies have been reviewed and updated over the years. A major task for the incoming Board in 1982 will be a review of the constitutions of the Board and its Management Committees. The Board has adhered strictly, and with pride, to the philosophy of joint student/staff management of its affairs and this has contributed to the harmonious relations that exist between staff and students at Griffith.

THE BUILDINGS AND THE SITE

One of the major considerations influencing early physical planning was the belief that the University's distinctive physical setting should be used to reflect the University's academic and organizational philosophy. The site development plans developed in 1972 emphasized the importance of ensuring that the design and placement of buildings complemented the physical features of the Site.

The original development plan which formed the basis of the 1973 "Griffith University Site Planning Report" by the then University Site Planner, Mr. R. Johnson, allowed for a population of 6,000 students distributed across Schools each
with a maximum population of 1,500 staff and students. The Plan provided for a compact Academic Core developed along a main pedestrian street. Buildings designed to effectively meet widely varied functional requirements have been constructed along this street, without threatening the coherence of the overall plan.

Construction of the first academic building - the Science I building - began in July 1973 and was soon followed by the Library and Humanities buildings and University House. These four major buildings together with the Recreation Centre and roadworks and site services were ready for the commencement of teaching in March 1975.

Since 1973, 14 major buildings have been completed together with a system of roads and services, electricity substations, chilled-water plant, and street lighting for an actual cost of $29.4M, and with current replacement value of $55.3M.

This work has been done in association with a landscape plan which maintains the natural landscape. Where preservation has not been possible because of construction scars, native trees and shrubs have been replanted.

The physical plans for the University have been reviewed as expectations about the rate of growth and the size of the University have changed. It is a tribute to early development plans, and subsequent planning decisions, that only minor changes have had to be effected to provide facilities suitable for a University of 4,000 students.

The prospect of holding the XII Commonwealth Games in Brisbane in 1982 was the catalyst which led to the construction of the Village - a residential complex of 702 bedrooms in varied configurations of flats and serviced rooms. This project, which cost $7M, was jointly funded by the Commonwealth and State Governments (each providing 27 1/2 % of funds); the Commonwealth Games Foundation (5%) and the University (40%). The University's contribution was raised by a debenture issue, financed by rentals.

In 1981, construction of further buildings worth $32.2M was begun. Two of these were to accommodate the additional needs of the XII Commonwealth Games - the Village Centre, a general purpose building of 1,000 m² funded by the Department of Home Affairs and the University; and School Building Five, which will be put to academic use in 1983.

No new building funds are expected to be provided in the foreseeable future, and only careful management of space will allow the University to operate satisfactorily over the next few years. Restriction of funds for tertiary education has reduced the University's capacity to provide properly for the operation and maintenance of its buildings and maintenance of its grounds. Spending on site operations and maintenance fell by 22% between 1978 and 1980, after allowance is made for the increase in building area in that period. Although facilities have not deteriorated to an unusable state, many desirable programmes of preventive maintenance and improvement have not been able to proceed.

COMMUNITY ACTIVITY

The University's commitment to community involvement is reflected in the Griffith University Act which provides that one of the functions of the University shall be "to aid by research and other appropriate means the advancement and development of knowledge and the practical application of knowledge to government, industry, commerce and the community".

This commitment has been demonstrated in many different ways. Staff of the University have contributed both officially as University representatives, and in their personal capacities, to the work of advisory and consultative bodies. They have conducted continuing education and other programmes, contributed to or edited journals, and organized or participated in conferences and seminars.

By 1975, a lively programme of community activity had been established. This ranged from the secondment of a senior lecturer in the School of Australian Environmental Studies to act as advisor to the Fraser Island Environmental Inquiry, to membership by faculty and general staff on the Board of Secondary School Studies and its various committees, and other professional and scientific bodies. Much of the work of the University's research centres has a strong and explicit community orientation (see section on Research Centres on page 16 and the Research Report).

A good example of the University's commitment to the application of knowledge to community problems is one of its earliest and longest standing research projects on the quality of health care in suburban environments. This project, which has attracted substantial external funding support first from Australian Frontier in
1973 and subsequently from the Australian Hospitals and Health Services Commission (totaling $153,434), surveyed over 900 pre-school children and their families living in developing outer southern suburbs of Brisbane. The project investigated existing health care services and the ways in which they are utilised. It found that less advantaged and more distant communities take greater relative risks with their health. The research team suggested remedial programmes for the health care services provided within these areas. The project moved from basic research into an action oriented phase. The team initiated training for self-helping groups, aided by doctors and nurses in the community. The publication "A Self-Help Health-Care Workbook", first published in 1978, and re-printed twice since, is used and sought after by health care groups concerned with increasing knowledge and skills for achieving and maintaining the health and well being of children to pre-school age, and by individual parents. The activities of the Health Services Research Team in 1981 included training of leaders of Self-Help Health-Care Workshops, with nurses from New Zealand also participating. The training programme developed by the team was used by the Department of Aboriginal Health, and the Army ran a pilot course at Wacol.

The year 1981, also saw the organisation of one of the School of Australian Environmental Studies' most ambitious contributions to community activity. With funding of $67,000 provided by the Australian Development Assistance Bureau, Dr E.K. Christie directed an international training course titled "Desertification and Management of Arid and Semi-Arid Grazing Lands". Twenty delegates from 12 countries in Latin America, Africa and Asia attended the six week course which has been acclaimed as an unqualified success by course participants and contributors. Delegates expressed the view that the course would prove beneficial for their research into natural grazing land problems in their own countries. Australian Environmental Studies faculty staff were also heavily involved in the planning for the 51st ANZAAS Conference which was held in Brisbane in May 1981. Sections 40 (Environmental Studies) and 8 (Mathematical Sciences) were organized by Griffith staff and held in the School of Australian Environmental Studies. Dr A. Chase was seconded to the Northern Lands Council from July to December 1981, to act as investigating anthropologist for three land claims on that Council's behalf.

In 1981, for the first time, the School of Humanities participated in the Australian Film and Television School National Graduate Diploma Scheme. This Scheme is aimed primarily though not exclusively, at teachers, for whom it will constitute a tertiary qualification in film and the media. This qualification will give teachers the knowledge and confidence to move into a rapidly expanding area of community teaching. The School of Humanities was one of a number of places from which students in the programme could choose appropriate courses. Eleven enrolments were accepted through this Diploma Scheme. The Activities of the Health Services Research Team in 1981 included training of leaders of Self-Help Health-Care Workshops, with nurses from New Zealand also participating. The training programme developed by the team was used by the Department of Aboriginal Health, and the Army ran a pilot course at Wacol.

A Humanities faculty staff member convened the International Conference "Organization, Economy, Society: Prospects for the 1980s" which was held at the University in July 1981. Another Humanities staff member continued to be a major contributor to the planning of the syllabus for file and television studies in secondary schools.

Contributions of staff of the School of Modern Asian Studies to community activity during 1981 included the provision of translation services to migrants and the general community; a submission to the Senate Standing Committee on Trade and Commerce on "The Australian Export Coal Industry"; and contributions to radio and television programmes and the print media. The School conducted a series of "Asian Updated" seminars to enable teachers, businessmen, government officers, students, and the public generally to obtain an expert view of modern Asia. Six "Updates" were held during 1981 on the trial of the Gang of Four; the Indonesian elections; the changing situation in Japan; impressions of North Korea; the Malaysian political economy; and the situation in Vietnam and Kampuchea. Many secondary schools took advantage of the School's introduction of its "Understanding Asia" programme under which Modern Asian Studies faculty staff were made available to lecture to groups of students. The University is proud to report that a 1981 survey conducted by the Asian Studies Association of Australia revealed that the School of Modern Asian Studies undertakes a broader range of community activities and does them more successfully than any other similar university entity in Australia.

In 1981 the School published a two-volume set of Chinese language teaching materials for secondary schools - "Hanyu, Chinese for Beginners" by Peter Chang, Alyce Mackerras and Yu Xiuqing. The Australia-China Council has given its support to the use of the book as a standard secondary
Staff of the School of Science continued to serve on many Boards and Committees external to the University. These ranged from the Australian Institute of Nuclear Science and Engineering and the National Council of the Australian Biochemical Society to the Brisbane City Council Environment and Conservation Committee.

Despite the pressures and demands of course design, the School of Social and Industrial Administration maintained a high level of interaction with its various communities in 1981. In February, the School ran Australia's first formal training programme for Pre-Retirement Educators. The course, "Teaching Retirement" attracted 40 paying participants. Delegates spent half their time being exposed to theoretical and practical information provided by expert lecturers, and the rest of the programme was on practice of the skills required in Retirement Preparation Programmes. The Centre for the Advancement of Learning and Teaching took a primary role in this latter activity. A formal evaluation of the programme confirmed its effectiveness and considerable interest has been shown in the programme throughout Australia.

During 1981, the School of Social and Industrial Administration helped the St. Thomas More College develop and evaluate an alternative activity-based programme for Grade 9 students.

The School Chairman accepted an invitation to give evidence to the Commission of Inquiry into Management Education. Professor Limerick reinforced the School's formal recommendation of November 1980 that the Commission consider the formation of a multi-campus Graduate School of Administration to serve Queensland's management education needs.
During 1981, faculty staff in the Centre for the Advancement of Learning and Teaching served on committees of the Board of Secondary School Studies and on the executive of the Higher Education Research and Development Society of Australasia. Staff of the Centre received two grants (one continuing, one new) totalling $37,000 from the Evaluative Studies Committee of the Commonwealth Tertiary Education Commission to do an "Evaluative Study of the TAFE Teacher Preparation Programme" conducted at the then Mt. Gravatt C.A.E., the T.A.F.E. Teacher Preparation Centre and Colleges of T.A.F.E. and a "Review of Structures and Processes in the Department of Liberal Studies, North Brisbane C.A.E."

Following negotiations in 1980, the Language Centre mounted its first intensive language training course in Indonesian in 1981. Nine Papua New Guineans - five from the PNG Armed Forces and four from the PNG Public Service - attended the nine-month course which involved 15 contact hours per week divided into lectures, tutorials and language laboratory sessions. All the students passed what is believed to be the first course of its kind offered at an Australian university. The Language Centre assisted Mt. Isa Mines Ltd. in editing and translating into Chinese, the English commentary on an information film to be screened in China. The Centre also prepared the sound track for the film. The Centre met a number of other requests for translations of varying magnitude, including the production of Chinese versions of overhead transparencies to be used in a commercial production in China.

THE LANGUAGE CENTRE

An early academic decision was that the Schools of Modern Asian Studies and Humanities would offer language courses as concentration areas to their students. Those courses would emphasize the establishment of command of the colloquial form of the language, to be of assistance to students in their other degree studies. It was seen that these language skills would also form an appropriate basis for later honours studies in languages. It was the University's intention that it should be possible for the science-based Schools to include some study of languages in their respective bachelor's degree programmes at a later date.

The University's wide interest in languages led to the decision in 1973, to establish independent of any one School, a Language Centre to provide specialist language teaching. The Language Centre was also to provide language courses as part of the University's continuing education programmes. This decision to have languages taught by a separate specialist unit was partly influenced by prevailing dissatisfaction with the way languages were taught in traditional University departments of literature and languages, and in particular with the level of competence in speaking the language which is generally achieved in that system. It was believed that a Centre could provide more effective teaching backed by research into linguistics and language teaching methodology, and be better placed to provide more specialised language needs of postgraduates and community needs generally. It was also recognised that a Language Centre would offer practical advantages, including the economies of having a single language laboratory rather than individual School laboratories.

At the end of 1981, the Language Centre was teaching Chinese, Japanese and Indonesian (at first, second and third year levels), for the School of Modern Asian Studies; Italian (at second and third year levels); and Japanese (all levels) for the School of Science's Bachelor of Science with Japanese Language degree programme.

The Language Centre was established as an independent element, but with little academic autonomy since it has no students of its own, and limited control over the courses it teaches. This structure gave rise to some problems within the Centre, and to difficulties in the Centre's relationships with Schools.

In early 1981, the University began an enquiry into the role and functions of the Language Centre. This action was prompted in an immediate sense by the Language Centre's proposals in late 1980, to develop new academic programmes of its own, including postgraduate coursework programmes in Applied Linguistics. The Committee of Inquiry, comprising three senior Griffith faculty staff and an external consultant from the University of Melbourne was charged with advising on

- the most effective ways of meeting the requirements of the Schools' degree programmes for language study, taking into account academic, organizational and economic considerations for the University; and
- the most effective ways of meeting community needs for continuing and advanced learning of language.
The Committee of Inquiry having considered a number of options for the future organization and management of the Language Centre recommended the dis-establishment of the Centre and the vesting of responsibility for language teaching in the Schools. At the end of 1981, the Academic Committee accepted the Report as a basis for further investigation into whether or how the proposed merger of the Language Centre with the School of Modern Asian Studies, and with the School of Humanities respectively, might be implemented.

PRIZES AND AWARDS

In 1975, the University's "Degree for Service Statute" was promulgated, to allow the Council to admit to the honorary degree of Doctor of Griffith University (abbreviation DGU) any person who had, in its opinion, rendered distinguished service to the community or to scholarship or to Griffith University.

This degree was conferred twice - in 1975 on the then Governor of Queensland, Sir Colin Hannah; and in 1977 on the Chancellor Sir Theodor Bray.

In 1977, the University changed the title of the degree to Doctor of the University (abbreviation DU), in recognition of the fact that it is the convention for the titles of a university's degrees not to include the university's name.

The first two re-titled degrees for service were conferred in 1981, upon His Excellency Sir Zelman Cowen, Governor-General of the Commonwealth of Australia, and Professor R.D. Guthrie, Foundation Chairman and Professor of the School of Science.

Staff of the University have, over the years, received academic and community recognition in ways ranging from invitations to serve on the governing or management bodies of organizations or publications, to visiting appointments at other institutions in Australia and overseas.

In 1981, Professor C.P. Mackerras, Chairman of the School of Modern Asian Studies, was awarded a Media Peace Prize Gold Citation by the United Nations Association of Australia, for a series of articles on North Korea in the "Courier-Mail".

His Excellency Sir Zelman Cowen, Governor-General of Australia addresses the special meeting of the Council at which he received the Degree of Doctor of the University.
In 1980, the University Council approved the introduction of a University Medal, to be awarded on the basis of achievement, to graduates who have been awarded first class honours degrees, and who have displayed very high academic achievement at all levels of the bachelor's degree programme. The Council also approved the award of the Medals to past graduates of the same distinguished academic standing. It is not intended that an award will necessarily be made every year; nor, on the other hand, that only one medal will be awarded annually. The first University medals were awarded in 1981, to -

John McDonald Bekkers - BSc (First Class Honours) in the School of Science, 1979.

Gerard James Milburn - BSc (First Class Honours) in the School of Science, 1980.

Linda Marguerite Weiss - BA (First Class Honours) in the School of Humanities, 1980.

The Queensland Film and Drama Centre is a place where, by informal association with artists-in-residence, participation in workshops, and use of the Centre's facilities, members of the University and local community are encouraged to undertake creative work on their own. Since 1975 the Centre has been host to 11 artists-in-residence and a craftsman-in-residence.

The Centre has embarked on a deliberate policy of hiring artists-in-residence who have experience in, and a bias towards, community arts. Since 1979 practical workshop courses in creative arts, tutored by artists-in-residence and Queensland artists, have been attended by over four hundred participants, more than half of whom have been from the outside community. Through the Artist-in-Residence Programme the University and surrounding community have been exposed to the ideas and aspirations of practising artists. The University environment has been enlivened by the provision of high quality workshop facilities established by experts, and the Works of Art Collection has been enhanced by the addition of work produced on the campus.

During 1981, financial assistance from the Crafts Board of the Australia Council enabled the attachment of a craftsman-in-residence for six months to establish a ceramics workshop and build a kiln. Resident artists, the craftsmen and their families were accommodated in The Village in return for a parcel of art and craft work presented to The Village at the end of the year. A ramp was built on the etching workshop to allow access for handicapped artists.

A grant from the Queensland Government Department of the Arts, National Parks and Sport enabled the Centre to conduct an Australia-wide Playwriting Competition for a Queensland local history play to be performed during 1982 as part of Brisbane's cultural contribution to the Commonwealth Games.

Financial assistance from the Crafts Board of the Australia Council enabled the attachment of a craftsman-in-residence for six months to establish a ceramics workshop and build a kiln. Resident artists, the craftsmen and their families were accommodated in The Village in return for a parcel of art and craft work presented to The Village at the end of the year. A ramp was built on the etching workshop to allow access for handicapped artists.

A grant from the Queensland Government Department of the Arts, National Parks and Sport enabled the Centre to conduct an Australia-wide Playwriting Competition for a Queensland local history play to be performed during 1982 as part of Brisbane's cultural contribution to the Commonwealth Games.

Thirteen community workshop courses were conducted during 1981 in pottery, silkscreen printing, etching, drawing, photography, film and video, and mime. A relationship was established with the Extension Programme of the Division of Technical and Further Education of the Queensland Department of Education for the Centre to become a venue for their community workshops. The first of these workshops using the Centre's facilities was a course in film and video. Specialist workshops were also conducted for the Community Youth Support Scheme.

The Queensland Government Department of the Arts made a contribution towards running costs. The Griffith University Union of Students, and the Board of Community Services also assisted with contributions towards tutors' fees and workshop materials. A function was held on campus to raise funds for artist-in-residence materials.

The Centre's activities were publicised through newspaper and magazine articles and advertisements, radio interviews and community radio announcements, the Queensland Cultural Diary and through distribution and display of leaflets and posters.

A Works of Art Committee, comprising members of the University and outside art experts was established in 1975 with the responsibility of creating a cohesive art collection.

The Committee acquires and administers works of art for permanent location in specific sites in the University, and the University Art Collection has been enhanced by the addition of work produced on the campus.

UNIVERSITY ART COLLECTION

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buildings. Exhibits are moved from one venue to another at frequent intervals.

Funds for purchases have been derived from a component in the capital grant for the construction of buildings, grants from Commonwealth schemes for assisting the arts, from the University Fund and from donations.

Purchases for the University Art Collection are made within a policy approved by the Council, which places a major emphasis on works of living Australian artists. Works by overseas artists have been purchased solely in areas where examples of similar work do not exist in Australia, or where the works are considered to either highlight aspects of the collection or exemplify important movements in contemporary art. The purchase in 1981 of the intaglio print “Giocolieri - Jugglers” by the important Italian artist Marino Marini, was made within these guidelines. The University’s Art Collection concentrates on graphics and other works on paper, a respectable collection of which can be built up with a relatively modest outlay. This area has been subject to some neglect and the University’s collection in this category can now be said to be a worthy component in Queensland’s art resources, and in, indeed, assuming some importance nationally. The collection complements the functions of the Queensland Film and Drama Centre as a focus for print-making.

Acquisitions by the Works of Art Committee during 1981 served to further consolidate the University’s holdings of graphics and works on paper by contemporary Australian artists. These included works by Alan Leach Jones, Lesley Dumbrell, Murray Walker, Max Dupain, Sally Robinson and Stephen Spurrier. Of particular note was the acquisition of three fine etchings by Fred Williams. Another major purchase during the year was the Brett Whiteley charcoal on paper “Bathroom Drawing No 5”. The collection was also strengthened by a donation of 34 prints by Ray Beattie, Artist-in-Residence in 1981, at the Queensland Film and Drama Centre.

The purchasing policy extends, with less specialisation, to works of art in other media, including paintings and sculptures. A major 1981 acquisition was the David Skinner painting "Principles of Buoyancy".

Recent acquisitions were exhibited in May 1981 in the Central Theatres foyer. In conjunction with the Warana Festival and the University’s tenth anniversary, graphics from the Art Collection were exhibited in September-October of that year.

**INTER-INSTITUTIONAL CO-OPERATION**

The University has, from its earliest days, seen the advantages of close co-operation between institutions of higher education. The strongest links are, of course, with the University of Queensland (computing, honours courses, Library facilities, planning liaison).

The year 1980 saw two major inter-institutional arrangements come to fruition. In July of that year, an agreement was reached with the Queensland Institute of Technology for the joint purchase and operation of a Kratos MS25 gas chromatography mass spectrometer system, located at the Queensland Institute of Technology. The instrument, which has a wide range of teaching and research applications combines gas chromatography (a highly sensitive technique for the separation of mixtures) with mass spectrometry (a technique for the separation and measurement of molecular masses). The instrument is operated under the general direction of a Management Committee with representatives from both institutions.

In September that year, the University entered into an agreement with the University of Queensland and the Queensland Institute of Technology for the purchase of a Bruker-CXP-300 high resolution, high power Fourier nuclear magnetic resonance (NMR) Spectrometer, and the establishment of the Brisbane NMR Centre. The instrument is located in the School of Science and has a variety of medical, biochemical, chemical and physical applications of NM. A Management Committee representing the three institutions directs the operation of the instrument.

During 1981, the Brisbane NMR Centre became operational and was fully utilized: there was less than 10% free time on the instrument, based on a 24 hour day, seven day week.

These two jointly owned and managed ventures are unique in Australia, but may become the prototype in a situation of limited resources and the ever increasing cost of sophisticated research equipment.

Inter-institutional co-operation of another kind found expression in the setting up of the Administration and Business Education Liaison Committee (ABELC) in 1980. This Committee was set up as a result of the initiative of the School of Social and Industrial Administration and originally included the four educational...
institutions engaged in administrative education in Queensland - the University of Queensland, the Queensland Institute of Technology, the then North Brisbane College of Advanced Education and Griffith University. By the end of 1980 ABELC had grown to include representatives of all Queensland's tertiary institutions involved in management education.

The University's longest-standing co-operative activity is with the University of Queensland in the management and financing of the Prentice Computer Centre. Early in 1973 the two universities in Brisbane decided to co-operate in the development of a single major computer centre, with shared funding of capital and staff expenditure. Since mid-1974, the University has been represented on the University of Queensland's Computing Policy Committee and Computer Centre Management Committee. In turn, the Director of the University of Queensland's Computer Centre has been an ex officio member of the University's Computing Committee since its establishment.

Liaison committees have also been set up with other Brisbane tertiary institutions to explore and develop co-operation and mutual assistance. In 1978, academic liaison committees with the University of Queensland and the then Mt. Gravatt C.A.E. were set up. Both were charged with advising executive heads of the respective institutions on a number of areas, and in particular on

- any aspect of academic development affecting either institution, particularly ways of avoiding overlap in activities, and the devising of future joint programmes;
- the use of each institution's facilities by the staff and students of the other institution;
- the joint use of equipment and other academic support services;
- the development of postgraduate studies.

In 1981, an academic liaison committee was also established with the Queensland Institute of Technology.

In 1978, the University established an administrative support services liaison Committee with the then Mt. Gravatt C.A.E., with the responsibility of advising the two participating institutions on the sharing of scarce skills, plant and equipment in buildings, printing, transport, general administration, computing and library services.

**GRIFFITH UNIVERSITY UNION OF STUDENTS**

The Griffith University Union of Students is legally a constituent part of the University whose establishment is provided for in the Griffith University Act. However, the Union operates separately as a body in its own right, and represents a student point of view.

The first meeting of the Union of Students was held in March 1975. Much of the early work of the Union was devoted to the formulation of a constitution, which was finally approved by the University Council in August 1978.

The Union's organization emphasizes participation of the widest possible range of students in its decision-making. The powers of the Union Executive to commit the student body without consultation are very much constrained. There is also effective provision for the Union to be questioned and brought to account by the student body.

Student concerns familiar in other higher education institutions were soon experienced by the students: as early as 1978, Union members participated in the protests against the Queensland Government's ban on street marches; in anti-uranium marches; and protests against the Federal budget. In the following years, a number of other distinctive patterns emerged: close association with the Australian Union of Students (AUS); support for civil liberties and campaigns for increased student funding; the publication of the student newspaper "Griffitti"; and the founding of the Union's Food Co-operative. From an early date, students helped to organize the annual Orientation Week and participated on University committees as student representatives.

As the seventies passed into the eighties, the emphasis on the mass protest and the street march became less pronounced, and the Union turned to direct representation to members of parliament on questions of student fees, loans and increased student allowances. Another important difference has been the growth in Student Union revenue: total revenue from February 1975 to February 1976
was $6,481. For a similar period in 1981, the Union received approximately $56,000. This increase has been achieved without raising the Student Union charge to onerous levels: it was $10 in 1975 and $30 in 1981.

This increase in funds has enabled the employment of salaried staff to ease the burden on student office bearers.

During 1981, the Union continued to represent students' interests on campus and in regard to broader educational issues. The dominant concern during the year was opposition to the educational funding cuts recommended in late March by the Committee of Review of Commonwealth Functions.

As in previous years, the Union provided a range of services for its members. These included the provision of a legal aid service through a member of the Caxton Street Legal Service; establishment of the position of Women's Officer on the Union Executive to assist female students with any problems peculiar to women, or arising from sexual discrimination; maintenance of a press-clipping service with up-to-date files on many subjects of interest to students; and provision of an insurance policy covering all students against sports accidents, death, disability and hospital or medical costs. The Union appointed an Orientation Director, responsible for organizing the programme of welcome for new students.

The Union was represented at a number of conferences including the Australian Union of Students Curriculum Conference in Sydney; the Education, Employment and the Economy Conference in Adelaide; and the Part-time and External Students Organization (PESO) Conference.

The Union contributed $2,000 to the University Loans Scheme in 1981. This Scheme makes loans available to students after interview, to help them pay their student service charges, rent arrears and so on.

After May 1981, the major thrust of the Student Union's activity was directed towards informing the University, and Federal and State members of Parliament of the considerable amount of opposition to the Loans Scheme that was being raised by students. Other government legislation which the Union opposed in 1981 included the change to the Overseas Students Charge Regulations which increased these charges from $2,000 and $1,500, to $2,200 and $1,700; the enforced amalgamation of colleges of advanced education in Queensland and other states; and the decision to discontinue the teaching of Engineering at Deakin University.

Within the University, the Union made submissions to the Committee of Inquiry into the Language Centre; the Working Party investigating the use of tertiary entrance scores as a criterion for University admission; and the Working Party on revision of "Statute 8.2 - Student Good Order". The Union also actively canvassed students on their views about the adjustment of semester timings in 1982 - which would need adjustment because of the University's role during the Commonwealth Games.

The Union's publications, the student newspaper "Griffitti", and the campus newsletter "Mini Griffitti", assist the Union to act as a communications network.

THE GRIFFITH UNIVERSITY POSTGRADUATE STUDENTS' ASSOCIATION

The Griffith University Postgraduate Students' Association (GUPSA) which is affiliated with the Griffith University Union of Students was formed at a meeting held in April 1976 to liaise between the postgraduate body and the University. The need for such an organization was particularly apparent during the early high-growth phase of Griffith, with an influx of newcomers taking the postgraduate population from its 1975 level of 18 to 97 by 1977. Since then numbers have gradually increased to the current figure of 213.

Student participation in the Association has occurred on an informal basis with occasional gatherings providing for social interaction and as a forum for discussion. The GUPSA reports that it has always found the University receptive to its ideas and aware of its position in the University. At the formal level, there is a provision for postgraduate representation on the Council and several of its committees whose work directly impinges upon the concerns of postgraduate students.

The most severe problems seen by postgraduates have been the taxation of Commonwealth Postgraduate Research Awards, the declining value of postgraduate remuneration, the proposed imposition of fees, and the continuing squeeze on education funding in general.

GRIFFITH UNIVERSITY FACULTY STAFF ASSOCIATION

The initiative for establishment of the Griffith
University Faculty Staff Association (GUFSA) came from the Federation of Australian University Staff Associations (FAUSA). The Association's objectives as described in its 1976 constitution, are:

- to safeguard academic freedom at the University;
- to further the interests of the University teaching and research staff and to seek better employment conditions;
- to maintain and promote fellowship amongst members of the University community; and
- to encourage and facilitate contacts between the Association or its members and other persons or bodies concerned with matters of professional interest to members.

These general areas of concern have remained the same, although the degree of importance of the various goals have altered. GUFSA's main preoccupations today are with professional academic goals, and the industrial activities required of any academic faculty organization registered as an industrial union.

Following registration of the Association with the Queensland Industrial Registrar in 1978, GUFSA's ties with FAUSA have become stronger, and involvement in FAUSA affairs and committees has also increased. Several members have, over the past few years, held national office, been members of FAUSA Standing Committees, and members of working parties producing policy documents. This involvement has ensured that the nature and problem of small universities are heard within FAUSA and included in all discussions on tertiary education issues and matters concerning employment conditions for academic staff.

Within the University, GUFSA members are on the Council, the numerous committees of the Council, various schools/centres/divisions and the Board of Community Services. This has ensured GUFSA a voice in the formulation of policies and decision-making within the University and its community.

Recently, GUFSA has become more concerned with protecting academic standards, and acting industrially on behalf of its members.

The close consultative relationship between the officers of the University and the Association has enabled joint approaches to staffing on industrial issues.

GRIFFITH UNIVERSITY GENERAL STAFF ASSOCIATION

The Griffith University General Staff Association (GUGSA) was formed in July 1974 with the following objectives:

- Co-operation with other associations on issues in the pursuit of common goals;
- Promotion of harmony between general staff and other sections of the University community;
- Negotiations on behalf of the general staff with the University, other associations and unions.

The maintenance of open lines of communication between the Association and the University over the years has enabled GUGSA to achieve these goals. Since 1975 informal meetings have been regularly held between the Executive Committee and the Registrar and Vice-Chancellor. These discussions have been profitable not only in their content, but in developing an attitude of mutual respect and trust.

At present, no membership fees are collected, and the Association is now considering the introduction of membership fees to ensure the receipt of a regular income.

No positions on the Executive Committee are honorary ones, and the limited time available to members of the Executive Committee to pursue the objectives of the Association has become a problem.

The Association is formally represented by a nominee on several University Committees.

The Association has also been intimately involved through its Chairman, in making representations on staff members' behalf in response to allegations of misconduct raised under "Statute 4.3 - Conduct and Performance of Members of the General Staff Groups 3 and 4". This intermediary role is formally enshrined in the Statute which provides that the Registrar may consider any comments on an adverse report of a staff member's performance made by the Chairman of GUGSA at the staff member's request. This participation has been remarkably effective and harmonious.

The Association's membership numbered 296 at the end of the year.
This report contains accounts of research work undertaken in the five Schools of Griffith University during 1981. As in previous years, the report reflects the very healthy state of research within our young institution. There is a balance between on-going and new projects, and a gratifyingly large and increasing amount of outside financial support from a variety of granting bodies. Total research funds utilised within the University in 1981 topped $1,000,000 for the first time, close to twice the expenditure of the previous year. The Schools of Modern Asian Studies, Science and Australian Environmental Studies registered particularly impressive gains in income.

1981 was not only a successful year for research within the University but also its tenth year of existence. Accordingly, we have augmented this report with more detailed accounts of three research projects which have been particularly significant within this first decade. Each has attracted substantial funding on an on-going basis and has resulted in both scholarly publication and public interest and benefit. These three projects—Professor Arthur Brownlea's work on self-helping health care, Dr Roger Holmes' investigation of the biochemistry of alcoholism, and the evaluation of "Synroc" as a storage material for high-level nuclear waste undertaken by Professor Robert Segall, Dr Sverre Myhra, Dr Roger Smart and Dr Peter Turner—are selected from a wide range of equally successful projects summarised elsewhere in the report. They exemplify the multidisciplinary approach to problem solving which pervades Griffith University's work in both research and teaching.

In the present context of general economic stringency and increased demand for University accountability, the results of research supported by public and other funds need to be published, publicised and evaluated. We are confident that this report of our activities will bear the closest scrutiny by both scholars and the wider public. Our research activities, like those in other universities in Australia, do and must span both pure and applied aspects of investigation: it is this duality and the strong links with teaching which mark out university research from that practised in other research institutions. Support for university research from government and elsewhere cannot expect to be isolated from wider economic problems and constraints. However, the vital role of this research in the wider scientific intellectual life and technological development of the community must be promoted. It is an obligation to press for continuing support in the best interests of the community. Cutbacks in support for university research threaten the continuity vital to successful investigations presently underway, and severely jeopardize our capacity to meet future needs.

R.L. Kitching,
Chairman, Research Committee.
The level of health of a community is more a reflection of lifestyle, environmental factors, and medical services provided, than it is of human biological factors. A team of researchers led by Professor Arthur Brownlea of the School of Australian Environmental Studies set out in 1975 to examine how this proposition applies for a mother of a young family living in the expanding suburbs on the southern edge of Brisbane, seeking and choosing health care for herself and her family. This question raised issues about how families cope in such environments, given personal, family and community resources, and prompted a search for appropriate interventions that could improve the capacities of families to cope with health problems.

An approach to the Federal Department of Health resulted in a research grant which supported this project until its completion in 1981.

The research team included a doctor, a social worker, two nurses, an economist-statistician, and a psychologist, with the support of a typist-illustrator. The team developed networks among families, organizations, and those providing health services in the southern suburbs. Local mothers were trained in interviewing, and helped to design the survey questionnaire. After a pilot survey in Acacia Ridge, a detailed survey was made of 600 families selected at random in the southern suburbs of Brisbane. The results were subsequently presented to the media, and to communities at public meetings for evaluation.

After these discussions, the problem was redefined as that of family vulnerability to illness and to difficulties in providing appropriate medical care. Any acceptable intervention would need to improve family coping skills, build up local supportive activities, and improve communication between local health care providers and their clients.

The second stage of the project was the development of a self-helping health care programme, aimed at reducing the vulnerability of families to illness and...
health care problems, by teaching mothers how to make decisions about health care for themselves and their families, by improving their knowledge of health care, by building closer links between mothers and their local doctor or nurse, and establishing groups able to provide mutual support. The programme brings together groups of 12-20 young mothers for about 40 hours of workshop sessions, led by a local doctor or nurse, and assisted by a specially designed workbook.

Since the pilot study and the initial training of workshop leaders, the programme has been widely adopted in many communities, which have been able to adapt it to their special conditions and requirements. Programme sponsors are now found at almost all levels of government, in almost all Australian states, and in New Zealand, and in a range of private professional, organizational and neighbourhood settings.

The Aboriginal Health Programme in Queensland has become independent in self-helping health care by using its Griffith-trained staff members to train all its senior nurses, and has developed its own workbook series to serve aboriginal health care across the state. The Army is following along similar lines, using its own nurse trained at Griffith University to start the programme, and its nurse educators to train others.

Similar moves towards self-reliance and local adaptation are occurring elsewhere. In Warwick, for example, the local community health nurse who started the programme in Killarney (a nearby rural village), has formed a management group to implement self-helping health care in Warwick. The research team has been approached by a nurse working in the Roxby Downs mining project in South Australia for materials to develop the programme there. In South Australia, the workbook is being translated into a number of foreign languages, to reach families whose native language is Greek, Italian, Serbian, German, Croatian and Spanish.

The investigators feel that self-helping health care has become an effective element in the evolution of new styles of health care.

**GENETIC AND BIOCHEMICAL STUDIES OF ALCOHOL METABOLISM**

There are striking variations in the occurrence of alcoholism in different families in the community. These disparities even occur in different sexes within families, as well as in communities of different racial origin.

Dr Roger Holmes of the School of Science is a biochemical geneticist studying genetic bases for the diversity of responses to alcohol consumption. His interest in alcohol metabolism was stimulated when, in 1976 and 1977, his studies of isozymes (enzymes which are synthesized by more than one gene) led to the discovery of a genetic variant in one enzyme which is a key factor in alcohol metabolism.

His work with co-investigators Dr John Duley, Mr Peter Mather, Ms Elizabeth Algar and Ms Tanya Seeley is now part of an international effort to cope with basic causes of alcoholism, and over the past four years has aimed to determine the nature of the genetic factors which may contribute to differing responses to ethanol consumption. It is now believed that genetic variations contributing to the different effects of alcohol consumption may occur in at least three groups of genes.

One group affects drinking behaviour, as a result of genetically-determined hormonal or behavioural characteristics. The second group are genes which contribute to disease resulting from ethanol ingestion, such as cirrhosis of the liver or the Wernicke-Korsakoff's syndrome, diseases which arise from differences in enzymes in the liver, where alcohol is broken down to be used as an energy source, and in enzymes which react with breakdown by-products of alcohol in the brain. The third group are genes which contribute to genetic damage caused by alcohol consumption.

Particularly significant are genetic non-uniformities in those enzymes in the liver which oxidise alcohol. These enzymes trigger the order in which alcohol is broken down into two substances; acetaldehyde, an extremely toxic substance which may produce
hallucinogenic compounds in the brain; and acetate, the metabolic by-product of acetaldehyde metabolism, which is used as an energy source by the body.

Dr Holmes's current project also analyses the appearance of these enzymes in various body tissues, including the brain, during the development of the foetus and new-born animals. The low level of enzyme activity which occurs within the foetus severely diminishes the metabolic capacity to cope with ethanol. This lack of defence means that about one in every 1000 babies suffers from the foetal alcohol syndrome, brought on by mothers - particularly alcoholic mothers - who drink heavily during pregnancy.

Dr Holmes uses inbred strains of mice to examine the extent of genetic differences in the production of these enzymes, and to decide which genes are involved. Inbred strains are used because all the individuals within a strain are genetically identical enabling the genetic differences between individuals to be controlled, and highlighting behavioural differences between the various strains. The mice used in studies examining drinking behaviour have free access to food, and are given a choice between drinking water only, or water with 10% ethanol. Some inbred strains prefer the alcohol solution; other strains will not touch the alcohol, and drink water only.

The project has been supported by grants from the Australian Research Grants Scheme, The Australian Associated Brewers, and the National Health and Medical Research Council.

In the long-term, the project aims to develop standard procedures for studying genetic differences towards alcohol consumption in human populations, and to contribute to an understanding of the processes in the brain leading to intoxication and addiction.

EVALUATION OF "SYNROC" FOR THE STORAGE OF NUCLEAR WASTE

Does Australia have a solution to the twin problems of storing high-level nuclear waste quickly, and storing it in a way that can reasonably be expected to be safe for more than one hundred thousand years?

A team of physicists, chemists and microscopists has been awarded a grant of $90,000 over three years by the National Energy Research Development and Demonstration Council (NERDDC) to look for a solution to the world-wide problem of high-level nuclear waste disposal. The team and their special interests are Professor Robert Segall (the physics of solids), Dr Sverre Myhra (the physics of radiation damage), Dr Roger Smart (physical chemistry of reactions at surfaces), and Dr Peter Turner (a physicist and expert on electron microscopy).

Their interest in this line of research dates back to 1974 and 1975 when Professor Segall, Dr Smart and Dr Turner were investigating fundamental principles in factors controlling dissolution rates of ionic, semiconducting and insulating oxides. This led to a research grant with the Australian Atomic Energy Commission to study glasses used to contain high-level radioactive wastes.

The work then expanded to include a comparison of the characteristics of high-level waste glasses and "Synroc". David Cousins and Roger Lewis, both of whom had been awarded studentships by the Australian Institute of Nuclear Science and Engineering, were already directing their doctoral research to aspects of these projects. The next step was the award of the NERDDC grant to study the microstructure of "Synroc", a product which was developed by Professor A.E. Ringwood of the Australian National University. The "Synroc" process blends high-level radioactive waste into synthetic rock with a tremendous cohesion, a method which promises to hold radioactive material for millions of years without allowing it to seep into the biosphere.

"Synroc" is produced by hot-pressing the radioactive waste with a mixture of oxides to produce three new synthetic minerals: perovskite, hollandite, and zirconolite, which between them bond with all the chemical substances of the radioactive waste.

Professor Ringwood's theory, now being treated with great interest around the world, is that the synthetic rock will retain the
dangerous radioactive waste in a static condition as it gradually cools and the level of radioactivity falls - just as similar natural rock formations have held naturally-occurring radioactive substances in a static condition for millions of years, despite changing geological environments and exposure to ground water.

The competing method of disposing of high-level nuclear waste is to fuse it in silicate glass (a procedure similar to making coloured Pyrex). Because high-level radioactive waste is very hot, with an initial temperature of about 400 degrees Celsius, it takes about fifty years for it to cool down to a temperature of less than 100°C. When the waste has cooled to this point, it can be fused in glass and stored in underground caverns where the temperature is no more than 40°C. It is claimed that radioactive waste can be disposed of in "Synroc" without a lengthy cooling period, and stored at great depths, where ground temperatures may be as high as 100°C.

Glass is the only disposal method with an existing technology, and the only disposal method actually in use. All other high-level radioactive waste is in interim storage in cooling ponds or tanks near reactor sites. The researchers expect that there will be a continuing demand for glass as the cheaper method in situations where it is possible to cool high-level nuclear waste before burying it.

The research team will compare the durability of "Synroc" with high-level waste glasses by characterizing the composition and structure at microscopic levels, and will work in close cooperation with the Australian Atomic Energy Commission and the Australian National University. They will use equipment at the Brisbane Surface Analysis Facility, which is jointly funded by the University of Queensland, the Queensland Institute of Technology, and Griffith University.
Research activity by faculty staff continues across a wide spectrum of interest, reflecting the multi-disciplinary and problem-oriented nature of the School. 1981 was another satisfactory year for the School in terms of research. Including some grants carried over from the previous year, the total value of funding within the School amounted to $260,000. This represents an increase on the figure for 1980.

The School's research interests in the management of land resources have been boosted by a decision made within the University this year to support the purchase of an isotope-ratio mass spectrometer, for the analysis of nitrogen-15 content in soil and water samples. The instrument, a Micromass MM622, is the first in Australia, and one of only a few in the world. It will be used to analyse samples from a wide range of terrestrial and marine experiments which are being conducted, from islands on the east coast of Australia, to the sand plains of the West Australian wheat belt.

Two controlled-environment plant growth chambers have been acquired through funds provided by the Australian Research Grants Scheme and the School. These chambers are being used for new ecological research studies into the effects of environment factors (light, temperature, and water) on the production and stability of natural Australian ecosystems, such as semi-arid grasslands and sub-tropical rainforests.

Members of the faculty staff were heavily involved early in 1981 in planning for the 51st ANZAAS Congress, held in Brisbane during May. Two sections of the Congress - those on Environmental Studies and Mathematical Sciences - were organised and held at the School.

Institute of Applied Social Research

The Institute of Applied Social Research was established in 1977 with a foundation grant from the Hancock Brothers. It is a research centre within the School whose primary objective is to bring together faculty staff who have interests in applied research and in seeking funding for research into problems of community interest. The IASR is administered by a Management Committee which is responsible to the School and to the University Council, and by a Director who is responsible for the day-to-day running of the Institute. For the period 1979 to June 1981, Dr Geoff McDonald was Director, and since July 1981, Dr Roy Rickson has held that position.

Research in the IASR has focused on a number of main themes in response to community needs:

- Impact studies of major projects and planning proposals including the declaration of the Cattaraugus section of the Great Barrier Reef Marine Park, irrigation development in the Upper Darling Basin, the southeast Queensland pulp mill, and land development in the Hinchinbrook area.

- Fisheries economics and management studies covering most sections of the Great Barrier Reef and southeast Queensland.

- Social indicators and population data including the development of an information system, and publication of the Urban Social Atlas of Brisbane.

- Evaluation of government programmes, in particular the Queensland Defensive Driving Course.

- Studies of attitudes and responses to environmental degradation including industrial pollution abatement and soil conservation policies.

The IASR has attracted funding from a wide range of government agencies, private companies, community groups and from the University to support this work.

One of the principal features of the work of the IASR is its basis in interdisciplinary team work. Each project has called upon a range of expertise from the social sciences including economics, sociology, political science and psychology, and, given the substance of the research, related biophysical and engineering expertise in soil science, hydrology, acoustics and marine biology. This enables the institute to tackle a range of research problems beyond the scope of single disciplinary groups.

Research Projects and Activities

Staff

Mr D.E. Abel

- Numerical solution of a partial differential equation describing soil solute transfer

An investigation into different numerical methods of solution.

Mr D.E. Abel and Dr C.P. Catterall

A simulation model

The development of a simulation model for the forage sifting behaviour of silvereyes in response to habitat variability.

Mr D.E. Abel and Dr A. Hall

- Attitudes of students to learning computer programming

The study aims to identify the principal sources of anxiety amongst computing students through the collection and analysis of survey data about their attitudes.

Mr D.E. Abel and Dr C. Hulsman

- Fitting a Logisitc model

The development of a computer program to fit a logistic growth model to available data on terms, estimating statistical measures of the variance of the parameters of the model.

Dr A.A. Arthington

Ecological studies of freshwater systems associated with inundated and maintained swamps and dams of southern Queensland.

Aspects of three lakes on North Stradbroke Island are being compared, including physico-chemical limnology, zooplankton, phytoplankton and bacterial communities (with Mr G. Lee-Manwar). A separate study (with Dr J.A.L. Watson, CSIRO Division of Entomology, Canberra) has examined the ecology of cedonites (dragonflies) in these environments.

Dr A.H. Arthington, Dr D.W. Connell, Ms D.L. Conrick, Mr P. Outridge and Dr J. Fuerst

- Bulimba Creek ecosystem

This project has called upon a range of expertise from the social sciences including economics, sociology, political science and psychology, and, given the substance of the research, related biophysical and engineering expertise in soil science, hydrology, acoustics and marine biology. This enables the institute to tackle a range of research problems beyond the scope of single disciplinary groups.

Computer Simulation Modelling of the Upper Darling Basin

Computer modelling is used to simulate the water balance of catchment areas in order to estimate the amounts and rates of runoff which will occur from various amounts and rates of rainfall.

Dr J.R. McKay (Queensland Museum) and Mr D.A. Milton

Ecology of native and introduced stream fishes

The project aims to determine the impact of introduced aquarium fishes on native stream fishes in southeast Queensland.

Dr W.C. Boughton

Frequency of major flood events in eastern Australia.

Statistical techniques have been developed for the analysis of streamflow records in order to estimate the probabilities of future flood events of various magnitudes.
Management of water supply catchment areas

Some uses of land can affect the quantity and quality of runoff which may be required as a water supply for urban populations, irrigation, industrial purposes or wildlife preservation. This project involves a study of some of the conflicts between the uses of land in catchment areas and the needs of those who use the runoff water.

Dr W.C. Boughton and Mr D.M. Freebairn (Queensland Department of Primary Industries)
Surfaced runoff studies on the eastern Darling Downs

Soil erosion is a serious problem for agricultural production on the sloping lands of the eastern Darling Downs. The University is co-operating with the Department of Primary Industries in the study of surface runoff, soil erosion and moisture conservation under various crop and residue management practices.

Dr W.C. Boughton and Dr D. Gilmour (Queensland Department of Forestry)
Hydrology of the "wallum" country in southeast Queensland

Some 35,000 hectares of low productivity native forest in the wallum country has been converted to high productivity exotic pine plantation near Gympie, and this will increase to some 60,000 ha in the near future. Joint research with the Department of Forestry is aimed at clarifying the hydrological effects of this major change in land use.

Dr W.C. Boughton and Mr R.J. Neller
Modelling urban stream channel changes

This project is studying the hydrological and geomorphological changes that are occurring in the streams that traverse the Brisbane urban area (Enoggera, Oxley, Norman and Bulimba Creeks) as a result of excavation of sand and gravel for building materials, construction of water supply dams and flood detention basins, diversions of streams for flood mitigation, and major works such as the construction of freeways and airports.

Dr W.C. Boughton and Mr B.J. Stewart* (Queensland Water Resources Commission)
Environmental impact assessment of water developments in Australia

A study has been made of the techniques used by the major water resources authorities in Australia for evaluating the likely environmental impact of proposed water development projects.

Dr A.L. Brown
Computer simulation model of road traffic noise

Mathematical simulation of time-varying noise levels at various distances from roadways and for various traffic conditions.

Monitoring the change in roadside noise levels resulting from electrification of Brisbane's rail system

Twenty-four hour noise-level measurements have been completed beside several locations on the Brisbane electric system in order to compare the change in noise levels resulting from the introduction of quieter electric trains.

The dose-response relationship for road traffic noise

This is a continuing investigation into the relationship between physical measures of environmental noise and community response to such noise beside roadways.

Dr A.L. Brown (in conjunction with the Queensland National Parks and Wildlife Service)
Visitor survey on the Lamington National Park in Eastern 1979

A visitor and usage survey was conducted in the Binna Burra section of the Lamington National Park. Campers, lodge residents and day visitors were surveyed regarding their activities and opinions, and the information is currently being analysed.

Dr A.L. Brown and Dr A. Hall
Environmental study of a residential road

Tarling Parade, in a Brisbane suburb, originally serviced an access road to a freeway but further road construction resulted in this roadway reverting to a residential street. Extended interviews of residents and physical measurements have been performed on this roadway to assess community response to an improvement in environmental quality.

Professor A.A. Brownlee
Self-helping health care in young families

Further evaluations of co-caring in new suburban environments. During the year, three training programmes for nurses were undertaken to equip them to provide workshop leadership in a variety of community settings, such as Community Health Centres in country towns, voluntary agencies, preschool situations, among families of military personnel and within aboriginal communities. Nurses in Herington Island and Mt Ise have been trained for this work.

Political epidemiology

An analysis of the decision process surrounding epidemiological investigations of environmental health problems.

Professor A.A. Brownlee, Mrs S.M. Payne,
Dr P.H.A. Dayananda and Dr A. Hall
Evaluation of the Defensive Driving Course in Queensland

This project is funded by the Commonwealth Department of Transport, and is aimed at evaluating the use of the Defensive Driving Course in Queensland and examining any further improvements that can be made.

Dr C.P. Catterall and Mr R.H. Coutts
Plants key

The development of an identification guide to local plants, which is suitable for accurate identification but is unfamiliar with the terminology of taxonomic botany.

Dr C.P. Catterall and Professor J. Kikkawa (University of Queensland)
Population dynamics of island stiltwamp

A long-term joint study of fluctuations in population size of a small passerine bird under conditions of high density, periodic food shortage and climatic stress; investigating the factors limiting the population and the role of behaviour in its ecology and evolution.

Dr C.P. Catterall and Dr L.A. Potter* (CSIRO Division of Fisheries and Oceanography)
Population parameters of Sambroidae species

A joint project which studies the general demographic patterns of selected Sambroidea species, with particular reference to the interaction of habitat quality, density and individual size, and the effects of human exploitation.

Dr A.K. Chase
Cape York Peninsula historical reconstruciton

This project continues from postgraduate research into the history of European contact, Asian influences from lugger-based industries, and government intervention as they affected eastern Cape York aboriginal people. By elaborating the dynamics of the alien intrusions, the project aims to contribute to the historical debate on the transitions and transformations of aboriginal people who have undergone in the last 120 years, in their social and cultural life.

Dr A.K. Chase, and Dr B. Meehan* (ARU)
Daily River (ND) regional ethnographic survey

Associated with the Land Claims work for the Northern Lands Council, the investigators are...
carrying out the first anthropological survey work for the upper Daly Basin, among present-day members of the Warisan, Karntin, Nangi Munari and Djamindjung peoples. Though certain aspects of this work will be used in the preparation of Land Claim documents, the investigators will continue to gather and analyse data relating to perceptions of land tenure, resource use and social change among these aboriginal communities.

Dr A.K. Chase, Mr G. Walsh*, [National Parks and Wildlife Service (NPWS)], Mr T. Velbon [NPWS], with specialist assistance from Dr G.T. McDonald, Dr R.A. Hynes*, (Queensland Institute of Technology), Dr E.K. Christie and Mr E.C. Stock (Carnarvon Range aboriginal relics survey)

The project is to develop a site survey recording system with data codification for computer analysis. This is to be used in conjunction with other data in order to make planning decisions for National Park management strategies in the Carnarvon region. The project also aims to reconstruct basic social and cultural dimensions of pre-contact and early contact aboriginal life in this region, from the unique body of cultural remains. These consist of rock art and engravings, campsites, mortuary sites and materials, artefacts and other culture items.

Dr A.K. Chase, Mr L.J. Webb, Dr D. Smyth*, CSIRO Division of Rainforest Ecology, Dr R.A. Hynes*, (QUT), Professor S. Rigsby and Mr C. Anderson, (University of Queensland)

Cape York ecology research

The project aims to examine the ecological effects of high temperatures and heat-induced moisture stress on the establishment, growth and survival of plants important for Australia's pastoral industries.

Dr E.K. Christie

High-temperature stress in eucalyptus species

The project aims to examine the physiological mechanisms and ecological effects of high temperature and heat-induced moisture stress on the eucalyptus species important for Australia's pastoral industries.

Dr E.K. Christie and Mr R.J. Armstrong

Analysis of environmental factors in relation to composition between invading and preferred native grasses

This project aims to evaluate the interaction between temperature and competitive ability for phosphorus between preferred native grasses and undesirable invading species on the infertile red earth soils of southern Queensland. The main objective of this project is to develop an ecological basis for the selection and establishment of preferred native grasses in degraded land systems of the Maranoa region.

Dr D.W. Connell and Mr G.J. Miller

Ecological basis of some common environmental contaminants

A review of the scientific literature is being undertaken to enable the development of a theoretical basis for the interaction of trace toxic substances with ecosystems.

Dr D.W. Connell, Mr G.J. Miller and Dr M.L. Coates

Petroleum hydrocarbons in the Great Barrier Reef ecosystem

This project involves the investigation of hydrocarbons in coastal, estuarine, and open marine environments of the Great Barrier Reef region (excluding the Capricornia Peninsula). Analysis of the results has revealed the occurrence of petroleum hydrocarbons in some organisms. This will establish a baseline against which petroleum pollution in the area can be evaluated.

Dr D.W. Connell, Mr G.J. Miller and Mr A.G. Pear

Behaviour of petroleum hydrocarbons in aquatic ecosystems

This project involves investigation of the rate of movement and compositional changes that occur in petroleum hydrocarbons when they are introduced into the Brisbane River estuarine ecosystem.

Dr D.W. Connell and Mr G.R. Shaw

Polychlorinated biphenyls (PCBs) in aquatic ecosystems

A series of investigations are in progress evaluating the factors affecting the transfer of PCBs within aquatic ecosystems. Trophic index has been shown to be significant only with birds, and microhabitats need to be considered important with other organisms. The stereochemistry of individual PCBs has a strong influence on uptake.

Mrs P.E.R. Dale

Nowa and Nowa people identification

Compilation of a Nowa and Nowa (bryanthera) flora for selection locations in southeast Queensland. Initially, the project aims to develop the investigator's expertise in identification, and in the longer term, to develop understanding of the Nowa and Nowa bryanthera ecology.

Phenological description of vegetation

Further application of the Dansereau method of describing vegetation for sites in southeast Queensland.

Mrs P.E.R. Dale and Dr M.B. Dale* (CSIRO Division of Computing Research)

Urban spatial patterns

Application of content analysis and numerical classification techniques to descriptions of urban space patterns and processes. Contrasts between reporters are also being investigated.

Mrs P.E.R. Dale and Ms K. Pole* (Open University, United Kingdom)

Cross-cultural study of vandalism

Analysis of student perception of vandalism using British and Australian students. Preliminary results indicate that there are two main student groups - those concerned with the motives for vandalism as well as its physical expression; those concerned only with the physical attributes (a conservative group); and a third group concerned with the ideology of vandalism, and related moral and ethical issues.

Mrs P.E.R. Dale and Dr R. Rogers* (University of Queensland)

Inventory of a local semi-natural sclerophyll woodland

A project was undertaken in the Institute of Applied Social Research under contract to the Great Barrier Reef Marine Park Authority, and with the co-operation of the Commonwealth Department of Primary Industry and the (then) Queensland Fisheries Service. The aim was to collect baseline data on commercial and recreational fishing activities in the Great Barrier Reef region, while emphasis was placed on economic

Dr P.M.A. Dayananda and Dr W.L. Hogarth

Statistical and mathematical models in drug addiction spread

Drug addiction is now considered to be a major sociological and health problem in the developed countries. Although agencies exist for combating this problem, so far no attempt has been made to analyse the data available. This project is aimed at developing models for drug addiction spread, as well as analysing the data available statistically.

Ms S.W. Driml, Mr T.J. Hundloe, Mrs S. Shaw, Mrs P. McSharry

Zoological characteristics of fisheries in the Great Barrier Reef region (excluding the Capricornia Peninsula)

This project was undertaken in the Institute of Applied Social Research under contract to the Great Barrier Reef Marine Park Authority, and with the co-operation of the Commonwealth Department of Primary Industry and the (then) Queensland Fisheries Service. The aim was to collect baseline data on commercial and recreational fishing activities in the Great Barrier Reef region, while emphasis was placed on economic
data, information on all aspects of fishing activity was collected and reported. This is the first time such data have been gathered for the region.

Mr. M.J. Guilfoyle

Remaining inner city suburbs in Brisbane

This project will ascertain the amount of pre-1900 housing remaining in the inner areas of Brisbane. This housing has attracted considerable attention from both urban conservationists and planners. The study will highlight the change in land use which occurred in Brisbane over the past eighty years and the role of housing in urban development.

Mr. M.J. Guilfoyle and Mr. J.L. Skinner* (University of Queensland)

Slum-type release of Brisbane, 1920-1980

This project will provide baseline information for people interested in historical and spatial change of Brisbane. The historical analysis of Brisbane has lagged behind the other capital cities, and this project will go some way towards documenting the urban development of the city. A series of maps will depict the change and growth of numerous aspects of the social and physical attributes of Brisbane.

Dr. W.J. Hogarth

Mathematical models in ecology

A project concerned with generalising existing, and establishing new differential or difference equation models for species interactions in ecology.

Dr. J.M. Hughes

Natural selection in the mangrove snail

The project examines a number of possible mechanisms for the maintenance of the very obvious shell colour polymorphism observed in the species. Experiments have been initiated to examine differential predation by birds, differential tolerance to heat stress and habitat selection of the different morphs.

Dr. J.M. Hughes and Dr. M.P. Zalucki* (University of Queensland)

Genetic variation in Lymnea stagnalis

Differential among local populations is being examined, using the technique of gel electrophoresis.

Dr. C. Hulsmann, Mrs. P.E.R. Dale, Dr. B. Kay* (Queensland Medical Research Centre)

Salt marsh ecology: mosquito control

An in-depth study of a small area of salt marsh (Cookmere Island) in southeast Queensland to determine relationships between topography and drainage, physio-chemical characteristics of pools and mosquito populations. The contribution of the salt marsh to the productivity of the coastal areas is to be evaluated. Optimal management procedures to minimise the mosquito problem in adjacent residential areas are also being investigated.

Dr. C. Hulsmann and Dr. N.P.E. Langham* (University of the South Pacific)

Feeding and breeding ecology of seabirds

The prime objective is to gather information about the ecology of seabirds needed to manage their populations in the Capricornia section of the Great Barrier Reef Marine Park. The following questions are being investigated: What population size is necessary for the long-term survival of each species of seabird that breeds in the region? What islands are needed as breeding grounds for the long-term survival of these species? What does each species of seabird eat and over what area of ocean does each species forage? What is the direct and indirect impact of human activity on the survival of each species of seabird in the region?

Mr. T.J. Holdale, Ms S.M. Drinn, Mrs S. Shaw, Mr. P. McGinnity

The economic characteristics of fishing in the Great Barrier Reef and in south-east Queensland. For this project, primary economic data were gathered for fishermen and tourist operators. Data were analysed by computer models to describe the total employment, income and output generated by fishing and tourism.

Mr. T.J. Holdale, Ms S.M. Drinn, Mrs S. Shaw, Mr. J. Trigger, Mr. R. Jansen and Mr. G. West* (University of Queensland)

Great Barrier Reef Marine Park: Calima section economic impact study

This project was undertaken in the Institute of Applied Social Research under contract to the Great Barrier Reef Marine Park Authority. The project entailed the collection and analysis of data on the economic impact of reef-related activities in the area of the proposed Calima section of the Great Barrier Reef Marine Park. The activities reported on in the study were: the charter boat industry; commercial fishing; recreational fishing from private motor boats; resort tourism; day trips to reefs and islands. Input-output analysis was used to calculate the economic impact of these activities on the Calima region and Queensland.

Dr. R.L. Kitching

Movement processes of animals in heterogeneous environments

Research into the patterns of movement of a variety of animals with the intention of constructing general models of the process. Tracking methods have been developed to quantify the patterns of movements of snails (two dimensions) and birds (three dimensions), and these are used to characterise movement patterns which can then be incorporated into models which include different degrees of environmental heterogeneity. The work involves parallel laboratory, field and simulation work.

Studies on naturally occurring mutualisms

The positive-positive two-species interaction called mutualism is studied in field and laboratory. Hymenoprotis laevis larvae have been selected as the experimental subjects. Aspects of their morphology and chemistry and population dynamics are being examined in order to gain an understanding of the dynamics of their interaction with ants.

Population dynamics and simulation of bleached coral

Analysis and synthesis of data on bleached coral populations dynamics continues. The development of indices of abundance, and subsequent analysis of serial age structures are being undertaken.

Dr. E.J. Liddle

The population biology of a species

The dispersal stage of noogopora burr was investigated in pastures grazed by sheep, horses and cattle. The study included measurements of the proportion of burrs picked up by stock and the rate at which they would be spread through the environment.

Regeneration of vegetation following power-line construction

This co-operative project with the South-East Queensland Electricity Board was commenced during 1980, and examined the vegetation structure and rate of regrowth in areas cleared for power-lines.

Dr. M.J. Liddle and Dr. R.D. Braddock

Phyllotaxis

The problem of leaf arrangement has been approached from a functional point of view, in which a computer model has been constructed to allow estimation of the light budget of leaves. The model will allow theoretical rearrangement of the plant structure.
Dr M.J. Liddle, Dr A. Bollow-Olsen* (Institut für Botanik, Copenhagen) and Mrs J.M. Zalucki

The flowering history of Xanthorrhoea johnsonii

The relationship between flowering history and the number of residences built since 1930 within three kilometres of the University campus was examined. A positive correlation was found, and it is suggested that this is due to increasing numbers of accidental fires.

Dr G.T. McDonald

Optimisation methods in land use planning

For strategic planning, the principal task is to choose the best possible allocation of competing land uses to meet the needs of the region in question. Research is underway on the application of linear programming, mixed integer programming and heuristic methods to find optimal solutions. Applications are in an expanding urban fringe area in an area of Queensland which was previously wholly rural.

Dr G.T. McDonald and Mr M.J. Guiroyle

Urban Social Atlas of Brisbane - 1976

An Urban Social Atlas has been prepared for the greater Brisbane Area. It contains a set of 70 maps together with interpretative text on the following major themes: age groups; occupations and incomes; employment and industry; ethnic and religious groups; families; housing; social area analysis. This atlas differs from most social atlases in that it contains a broader discussion of the various aspects of the urban area rather than a series of single commentaries on individual themes. Given this different approach, this publication is, in fact, a descriptive urban text for Brisbane and will offer valuable information for many years in the future.

Mr W.J. Metcalf

Alternative lifestyles as an environmental response

An examination of various types of communes and alternative, communities in Australia and New Zealand with particular reference to their environmental perceptions and responses.

Mr G.J. Miller and Dr D.W. Connell

Occurrence of petroleum hydrocarbons in sedating organisms

A study of the patterns of deposition and accumulation of petroleum hydrocarbons in organisms in the Brisbane River estuary is in progress.

Mr G.J. Miller, Mr A.G. Pear and Dr D.W. Connell

Behaviour of metals in a coral reef fish community

An investigation of the transfer of metals between water and fish, and between organisms and fish within a fish community on Heron Island is in progress.

Dr B.S. Niven

Application of mathematics to ecology

This group of projects involves several stages: a development in 'pure' logic (Lesniewski's mereology) with a view to using it in ecology, and formalisation of the theory of ecology by the compilation of formal definitions of certain ecological concepts such as 'resource', 'ecosystem', and by the application of the definition of environment to animals and human beings (in collaboration with Dr A. Hall).

Mrs S.M. Payne

Allocation of resources in a steady-state situation: a study of the Australian university system

This project involves developing a data base of the Australian university sector with the long-term objective of developing a model of resource allocation.

Economic evaluation of health services

The project involves an economic evaluation of medical and alternative health care services. In particular, an evaluation of the Community Health Care Programme was undertaken. This was concerned with evaluating the effectiveness and efficiency of health care at the India and Ipswich Community Health Centres.

Mrs S.M. Payne, Dr A. Hall and Dr A.L. Brown

Measurement of environmental quality

Development of scales to measure perception of environmental quality which could be used to compare both objective and subjective aspects of environmental quality.

Dr R.E. Rickson

Industrial pollution abatement: change, decision-maker/decision-maker relationships and environmental policy

A study of the attitudes of decision-makers in industry and scientists towards pollution abatement policies.

Professor C.W. Rose

Modelling of soil erosion and deposition in landscapes affected by management practices

An objective of these models was to aid quantitative interpretation of possible soil conservation strategies for various landscapes, soil types and environments.

Professor C.W. Rose and Mr B. O'Leary* (QIT)

Data of soil erosion

The development of a practical field technique to estimate the spatial variation and rates of soil erosion and accumulation on the Darling Downs using caesium-137 and lead-210.

Estimation of variations in soil erosion


Professor C.W. Rose, Professor J-Y. Parlane and Dr R.B. Braddock

Measurements of soil water properties

Testing of a new method for measuring hydraulic conductivity and sorptivity or average diffusivity in field soils. These factors control the movement of subsurface water.

Professor C.W. Rose, Professor J-Y. Parlane and Dr R.B. Braddock

Diffusible displacement in soils

Leaching of salutes, pollutants and fertilisers in soils. The project aims to describe kinetics and sorption effects from breakthrough curves affected by dispersion.

Dr P.G. Saffigna

Bromide as a tracer of nitrate movement in soils

The objective of this project is to determine the suitability of bromide as a tracer of nitrate movement under field conditions. The identification of nitrate leached from fertiliser or animal manures or other wastes is frequently difficult, due to transformations and sources of nitrate in soil. Bromide may be very useful to assist in identifying where nitrate peaks from specific sources have moved in the soil profiles.

Dr P.G. Saffigna and Dr J.N. Ladd* (CSIRO Division of Soils, Adelaide)

Carbon transformations in Queensland wheat-growing soils

The objective of this project is to establish the quantity of carbon that is released from wheat stubble and remains in the soil under field conditions. Wheat stubble labelled with radioactive carbon (carbon-14) was applied to undisturbed soil cores in the field. The quantity of carbon-14 remaining in the wheat stubble at different times during the summer fallow and the winter crop period was determined by analysis of soil and of residual plant material.

Dr P.G. Saffigna and Mr H. Mason (Western Australian Department of Agriculture)

Dinitrogen nitrogen availability to wheat under...
Western Australian field conditions

The objective of this project is to establish under field conditions the availability to wheat of applied nitrogen. Fertiliser labelled with nitrogen-15 was applied to unconfined and also to confined plots of soil on two sandy soil types near Merredin, Western Australia. The availability of the fertiliser nitrogen to wheat was determined by analysis of soil and plant samples for nitrogen-15.

Dr P.G. Saffigna and Dr D. Moriarty* (CSIRO Division of Fisheries)

Nutrient cycling in marine systems

The objective of this project is to determine the pool size of nitrogen components in various parts of the marine system (seagrass beds) in Moreton Bay. A sampling programme is under way in which total nitrogen and mineral nitrogen components of sediments in interstitial waters and seawater are measured. In addition the total nitrogen and organic carbon content of marine sediments and seagrasses are monitored.

Dr P.G. Saffigna, Professor C.W. Rose and Professor J-Y. Parlange

Modelling nitrogen transformations and transport in field soils

This programme aims to develop both simple and sophisticated models of nitrogen transformations and transport in field soils. So far there has been considerable success in developing simple hydrological based models of nitrate leaching in field soils. The model predictions agree closely with field data on nitrate leaching in soils in the USA. Currently an attempt to produce a simple field-applicable model of denitrification in a vertical is underway.

Dr P.G. Saffigna, Professor C.W. Rose and Professor J-Y. Parlange

Nitrogen transformations and residual value to wheat of fertiliser nitrogen

The objective of this project was to quantify, in the field, the transformations and residual value to wheat of nitrogen fertilisers. Fertiliser labelled with nitrogen-15 was applied to soil cores excised in PVC in the field. The transformations and residual value of the fertiliser under field conditions were determined by analysing the soil for nitrogen-15 content. The effects of different rates, forms and times of nitrogen application, and rates of stubble retained on the availability of fertiliser nitrogen were thus determined under conditions comparable to those under commercial production.

Dr P.G. Saffigna, Mr P. White* (Queensland Wheat Research Institute) and Dr I. Vallis (CSIRO Division of Tropical Crops and Pastures)

The effect of grain crop residual management on the availability of soil nitrogen and on the growth of the subsequent wheat crop

This field-based programme is being conducted on a vertisol (black cracking clay) on the Darling Downs in Queensland, primarily under the direction of Mr P. White but in close consultation with Dr I. Vallis and Dr P.G. Saffigna. This project developed after Mr White's findings in 1978 that, where stubble was incorporated even with up to 80 kg nitrogen per hectare applied, stubble retention still significantly depressed nitrogen uptake by wheat and barley. The major objective is to determine the immobilisation of fertiliser nitrogen-15 in the wheat and barley grown in 70 cm diameter rings in the field, and the reincorporation and uptake by the subsequent wheat crop under different methods of residue management. The project is just underway and it will be at least a year before any results are available.

Dr R.W. Simpson

Ozone and dust levels were analysed for the Brisbane area. An estimate of the impact of the

Darra Cement Works on dust levels in Brisbane was made as was an estimate of the efficiency of the Intermittent Control System (ICS) in Mt Isa in controlling air pollution.

Air pollution in Brisbane

This project involves the analyses of data collected by the Division of Air Pollution Control. It is hoped that such work will lead to forecasting models for monitoring levels in Brisbane.

Dr R.W. Simpson, Dr A. Hall and Mrs S.M. Payne

Percussive pollution

This project aims to measure individual awareness of pollution as a problem.

Ms P.J. Stabler

Practical multisite techniques

An examination of multisite techniques, especially related to the social sciences, is being carried out. It includes discriminant analysis and multi-dimensional scaling techniques.

Mr E.C. Stock

Geomorphology of Moreton Island

A field study into the short-term movement of sand in the northeast of Moreton Island combined with subsurface correlation of soil and botanical units, aerial photograph interpretation and morphometric analysis.

Mr E.C. Stock [with members of the Australian Littoral Society]

A field study of coastal wetlands

A field study to develop methodologies for rapid surveying of coastal wetlands to establish baseline data for monitoring and assessing impacts of natural events and human activities.

Ms J. Stokoe

The genetic and environmental aspects of nematodes in Hereford cattle

This project involves the statistical evaluation of a variety of factors in relation to the occurrence of this disease.

Rationale through a self-paced learning programme: a four-year comparison

A comparison of the rates of progress of students through the course, Self-Paced Introductory Mathematics (SPM), during the four years 1979 to 1983. An investigation of student satisfaction with the programme either (or otherwise) of an "assessment reward" in alleviating procrastination in this self-paced course.

Dr P.D. Vowles

Isolation and quantification of cardenolides in milkweed plants

Cardiac glycosides are important in the ecology of monarch butterflies and milkweed plants. The project aims to provide a rapid and simple chemical method for extracting and measuring the cardenolides contents of small amounts of plant tissue (single leaves).

Optimisation using fast-food fish

This project aims to investigate some factors controlling cadmium uptake by small native rainbow fish. Factors investigated are: cadmium concentration in water; cadmium concentration in food; temperature; and dissolved oxygen.

Dr K.J. Walker

Philosophical problems of global ecological management

Many environmental matters require international and global co-ordination for management purposes. This project sets out to examine various relevant philosophical problems especially in relation to democratic theory.

Problems in resource policy

A project connected with the ongoing debate on non-renewable resources and concerned with the policy implications of resource depletions.
Sweden's environmental policy and its relationship to national physical planning

Sweden has embarked on the development of a national physical plan which indicates uses of major natural resources. Environmental policies to date have been developed without the comprehensive overview which national physical planning will permit.

Postgraduate Research Activities

Mr G.A. Allsopp (PhD) - Biology and population ecology of three species of Tenebrionidae ([false wire worms])

Ms D.A. Barry (PhD) - Mechanics of solute and water movement in soil

Mr E. Basuno (MPhil) - Human ecology and land use

Ms P.I. Beam (PhD) - Nutrient cycling in mangroves

Ms R. Cameron (MPhil) - The role of effective education in the training of Technical and Further Education beginning teachers

Ms J. Camilleri (PhD) - Ecological theory

Mr J.F. Clewett (PhD) - Use of shallow storage irrigation dams in northwest Queensland

Mr A.S. Collings (PhD) - Environmental hydrology

Mr P. Doilibi (PhD) - Mathematics

Mr R. Douglas (MPhil) - Health ecology

Mr T.R. Earle (PhD) - Man-land analysis: some methodological problems in evaluating the Darling Downs soil conservation programme

Mr S. Eastel (PhD) - A study of the ecology and ecological genetics of the cane-toad Bufo marinus

Mr J.F. Elliott (MPhil) - Trachoma in Queensland

Ms N.P. Ferrer (PhD) - Social planning

Mr R. Floyd (PhD) - Population ecology

Mr R.T. Gilmore (PhD) - Urban land use

Mr D.L. Grantham (MPhil) - A study of dust exposure in relation to pneumoconiosis in the Queensland coal mining industry

Mr T.J. Hulten (PhD) - Fisheries management

Mr C.J. Jackson (MPhil) - Prawn studies

Mr W.J. Lawson (PhD) - A genus of African fly-catchers (birds) called batis which consists of seventeen species

Mr G.P. Lee-Manwar (MPhil) - Limnology and bacteriology of a perched dune lake

Mr D.A. Lockington (PhD) - The mathematical study of fluid flow in porous media emanating from a point source

Mr S.E. Macnash (MPhil) - The soils and geomorphology of a sub-catchment of Lithorpe Creek, southeast Queensland

Mr J.L. Merritt (MPhil) - Ecological study of selected grass species within the pooler box region of southeast Queensland

Mr W.J. Metcalf (PhD) - Mathematical study of fluid flow in porous media emanating from a point source

Mr G.J. Milligan (PhD) - Estuarine fauna as water quality indicators

Mr J.M. Mula (PhD) - Total system model of Australia

Mr P.C. Neale (MPhil) - Interrelated Control System: an analysis of its use at Mt Isa

Mr G.C. Ng (PhD) - Development and Forest exploitation in a developing country

Ms R.C. O'Brien (MPhil) - The social psychology of children's musical interests

Mr I. Oliver (PhD) - A study of psychological and sociological factors in systems analysis and design

Ms A.G. Orr (PhD) - Comparative studies in the morphology and histology of ant-butterfly relations

Mr T.J. Piggott (PhD) - Hydraulic geometry of river channels

Mr B.J. Pitts (PhD) - Recreation planning models based on carrying capacity concepts

Ms B.O. Pope (PhD) - Mathematical biology

Mr K.S. Pope (PhD) - Computer model of a natural resources data base providing interactive facilities for textual and graphical retrieval

Ms S.E. Quinnell (MPhil) - Vegetation ecology in the upland areas of the Moreton Bay region

Mr R. Rankin (PhD) - Computer modelling of constituents in runoff from catchments

Ms M.M. Sallaway (MPhil) - Soil erosion in the Mackay canelands

Miss E. Scheermeyer (PhD) - An investigation of hibernation of Australian canad butterflies in the Australian tropics

Mr G.R. Shaw (MPhil) - A study in the behaviour of polychlorinated biphenyls in estuarine food webs

Mr D.G. Skinner (PhD) - Mathematical modelling study of fish populations

Mr C. Soetjipta (PhD) - Aquatic ecology

Mr J.C. Stevenson (MPhil) - The effectiveness of different models of curriculum development in Technical and Further Education.

Mr B.J. Stewart (PhD) - Environmental aspects of water resources management in Australia

Ms S.E. Stock (PhD) - Environmental management in local government

Mr P.G. Surman (PhD) - Statistical modelling of air pollution

Mr W.D. Weeks (PhD) - Mathematical modelling of hydraulic processes

Mr R.M. Whalley (MPhil) - Soil erosion

Mr P.J. White (PhD) - Crop residues

Mr M.J. Williams (MPhil) - Aboriginal studies

Mr A.D. Wright (MPhil) - Role of the moth Samosamia albicastriata (Warren) in biological control of water hyacinth

Mrs J.M. Zalucki (MPhil) - Pollination ecology
1981 RESEARCH AWARDS

Australian Institute of Nuclear Science and Engineering

Professor C.W. Rose - $900
Estimation of the annual variation in soil erosion and the past and present rates of soil erosion to an upland catchment of the Darling Downs, Queensland, using caesium-137 and lead-210

Australian Marine Sciences and Technologies Advisory Committee

Dr D.W. Connell and Mr G.J. Miller - $31,619
Background levels of hydrocarbons in the Great Barrier Reef ecosystem

Australian National Parks and Wildlife Service

Dr A.H. Arthington - $32,158
The ecology and interactions of anodic and endovenous freshwater fishes in southeast Queensland streams

Australian Research Grants Scheme

Dr M.D. Sabath - $8,500
The ecology and interactions of anodic and endovenous freshwater fishes in southeast Queensland streams

Australian Wool Corporation - Wool Research Trust Fund

Dr E.K. Christie - $12,120
Modelling urban stream channel changes

Commonwealth Department of Science and Technology

Dr M.K. Christie - $9,500
Productivity of the introduced cane toad Bufo marinus

Dr A. Hall, Dr A.L. Brown, Mrs S.M. Payne and Dr R.W. Simpson - $10,000
Social responses to noise and air pollution in Brisbane

Dr H.C. Boughton and Mr R.J. Neller - $4,000
Modelling urban stream channel changes

Professor C.W. Rose, Dr R.D. Braddock and Professor J-Y. Parlange - $111,000
Measurement of soil-water properties

Australian Wool Corporation - Wool Research Trust Fund

Dr E.K. Christie - $12,120
Analysis of environmental and management factors in relation to competition between Amelispe and preferred range grasses

Bureau of the Northern Land Council

Dr A.K. Chase - $7,480
�archival and cultural studies

Commonwealth Department of Science and Technology

Dr R.L. Kitching - $3,540
Study visit to the Rocky Mountain Biological Laboratory, Gunnison, Colorado, funded under the Scientists and Technical Co-operation

Commonwealth Department of Transport

Institute of Applied Social Research - $38,273
Evaluation of the Queensland Defensive Driving Course

Condamine River Basin Irrigators' Association

Institute of Applied Social Research (Mr S.T. McDonald) - $11,835
An analysis of the irrigation industry in the upper Condamine basin

Federation of Australian University Staff Associations

Institute of Applied Social Research (Mrs S.M. Payne) - $4,650
A study of the irrigation industry in the upper Condamine basin

Friends of Currumbin Creek Estuary Association

Institute of Applied Social Research (Mr E.C. Stock) - $5,800
A study of the irrigation industry in the upper Condamine basin

Great Barrier Reef Marine Park Authority

Dr M.J. Liddle - $24,598
An investigation of reef corals

Institute of Applied Social Research (Dr J-Y. Parlange) - $31,129
Tourist impact on reef corals

Great Barrier Reef Marine Park Authority Augmentative Research Grants

Mr D. Hudson - $6,000
A preliminary study of land use changes and national park visitors in the Great Barrier Reef

Mr P. McGinley - $6,000
A preliminary study of land use changes and national park visitors in the Great Barrier Reef

Mr P. Bishop - $6,000
A preliminary study of land use changes and national park visitors in the Great Barrier Reef

Ian Potter Foundation

Mr M.P. Zalucki and Dr J.M. Hughes - $200
Genetic variations in the monarch butterfly Danaus plexippus

Main Roads Department (Queensland)

Dr A.L. Brown - $1,000
Traffic noise study - Taringa Parade, Brisbane

Rainbird Publishing

Dr R.L. Kitching - $1,320
Travel grant

Rural Credits Development Fund

Professor C.W. Rose - $22,274
Estimation of the annual variation in soil erosion and the past and present rates of soil erosion to an upland catchment of the Darling Downs, Queensland, using caesium-137 and lead-210

University Research Grants

Dr C.P. Catterall - $7,615
A study of the irrigation industry in the upper Condamine basin

Dr M.J. Quirk - $1,000
Removal of native plant species

Dr J.M. Hughes - $4,000
The role of natural selection in the maintenance of colour polymorphism in the mangrove snail Helicophorus inmanus

Mr. T.J. Hundloe - $2,406
Economics of southeast Queensland amateur and commercial fishing

Dr D.S. Niven - $6,147
Formalisation of theory of animal ecology

Dr R.E. Rickson - $2,050
Rate of industrial pollution changes in Australia

Professor C.W. Rose, Professor J-Y. Parlange, Dr R.D. Braddock - $2,000
Measurement of soil-water properties

Dr M.D. Sabath - $4,000
Population genetic analysis of the cane toad Bufo marinus

Dr R.N. Simpson - $4,000
A statistical air quality model for Brisbane

Wheat Industry Research Council

Dr P.G. Saffigna - $36,540
Quantification of the transformations and residual value to which of forage nitrogen...
PUBLICATIONS

Books


Book Chapters


Journal Articles


KITCHING, R.L. and TAYLOR, M.F.J. "The culturing of Jalmenus evagoras evagoras (Donovan) and its attendant ant, Zonodyrme undulata (Roger)". *Aust. Entomol.* May: 71-72, 1981.


Reports and Other Publications


Hundloe, T.J. and Driml, S.M. "Summary of recent investigations with emphasis on the structural and economic characteristics of the Australian fishing industry and in particular the Queensland component of the industry". A report to the Great Barrier Reef Marine Park Authority, 1981.


Miller, G.J. ed. "Physical Science Course Study Manual". Brisbane, School of Australian Environmental Studies Griffith University, 1981.


Niven, B.S. and Stewart, M.G. "The precise environment of some well-known animals II: the chimpanzee (pan troglodytes)". Brisbane, School of Australian Environmental Studies Griffith University, Working Paper No. 10/81, 1981.

Niven, B.S. and Stewart, M.G. "The precise environment of some well-known animals III: the mountain gorilla (gorilla gorilla beringei)". Brisbane, School of Australian Environmental Studies Griffith University, Working Paper No. 12/81, 1981.

Niven, B.S. and Stewart, M.G. "The precise environment of some well-known animals IV: the three-striped seal lion (canis lupus lupus)". Brisbane, School of Australian Environmental Studies Griffith University, Working Paper No. 14/81, 1981.

Niven, B.S. and Stewart, M.G. "The precise environment of some well-known animals V: the king penguin ( Aptenodytes patagonica)". Brisbane, School of Australian Environmental Studies Griffith University, Working Paper No. 16/81, 1981.


Saffigna, P.G. "Soil and fertiliser nitrogen research at Griffith University, Queensland". Report to the Properties and Utilization of Australian Environmental Resources Board, 1981.

"In listing projects or publications where a Griffith University staff member can be identified or is one of a number of contributors, the name of any contributor external to the University is indicated by an asterisk."
Institute for Modern Biography

The Institute for Modern Biography attracts many visitors each year.

Scholars are increasingly drawn to the Institute by its biography collection, and the Institute is frequently approached by academics seeking help in establishing biographies in tertiary institutions. This year, the IMB has given assistance and advice on the establishment of courses at three universities.

The Institute was pleased to be able to sponsor an international visitor this year, Professor Ulrich S. Baur of the University of Pennsylvania. Professor Baur, author of the biography Samuel Beckett (which won the American Book Award in 1981) and now at work on a biography of Simone de Beauvoir, was also invited to the IMB seminar programme, and lectured in several undergraduate courses.

The University, in 1981, awarded an Honorary Fellowship to Professor Roger Joyce of La Trobe University who is completing a biography of Sir Samuel Beckett. Use of the facilities of the Institute for Modern Biography in Brisbane has enabled Professor Joyce to substantially complete his manuscript.

1981 also saw the publication of the first book wholly produced by the Institute. Edited by James Walter and entitled Reading Life Histories: Griffith papers on biography, the book was printed and produced by the Institute for Modern Biography and is distributed by the ANU Press. It is an anthology of biographical papers and papers on theory and method from ten contributors, half of whom are at Griffith University, and the rest from elsewhere in Australia and overseas.

The Institute's biannual Newsletter has continued to grow in size, and now usually includes a substantial paper on some aspect of biography theory or methodology, and an increasing number of serious book reviews.

Research Projects and Activities

Staff

Dr M.L. Alexander
National integration and disintegration in the capitalist world economy

This project involves the preparation of a book on the place of Argentina, Australia and Canada in the modern world system.

Structural inequality in the modern world system
Use of cross-national comparative methods to assess the impact of the world economy on specific countries. The project involves the collection of data on the sectorial distribution of income and labour force.

Australian business leaders

This project aims to discover, by interview, attitudes of Australian business leaders on foreign investment, federal-state relations and career and recruitment patterns of business leaders.

Professor H.P. Caton
The politics of progress
A study of the character, diffusion and implementation of progress from 1650 to 1900.

Dr S.R. Clegg, Mr G. Dow and Mr P. Boreham* (University of Queensland)
Politics and economics of social class
How social class is structured, its political, economic and ideological effects and relation to economic policy.

Dr S.R. Clegg and Mr P. Boreham* (University of Queensland)
The social and economic impact of the career trajectories of different selected cancers
A comparative study to current research being undertaken by Dr David Silverman, University of London, on the impact of cancer on the domestic sphere after the patient has transferred from hospital to community care. The project examines successful medical encounters in clinics where topics concerning "non-medical" anxieties are raised by victims and families.

Mr H.S. Cownhan
The "audiences" in media studies
A series of theoretical-historical investigations into how movie-goers and broadcast listeners have been constituted as "audiences" in the discourses of moral regulation, mass culture criticism, and empirical social science.

The formation of a commercial broadcasting system
A history of the transformation undergone by Australian radio during its first two decades, focusing on the development of "modern" (advertising-based) commercial broadcasting.

Dr C.G. Crisp
Eric Rohmer: his films and theories
Realist film theory, the New Wave and the revival of art-film.

Christian Metz: syntagmatic classification in the cinema

This project aims to formulate a more adequate descriptive system than that used by Christian Metz for syntagmatic orderings in the cinema, to describe and account for realist film practices (particularly French studio practice in the period 1930-1939).

Mr J.J. Dawson
After Grierson

Mr G. Dow
Politics under capitalism in Australia

A continuing empirical, longitudinal and comparative investigation into the state and state responses to economic crises in the United Kingdom, Sweden and Australia.

The transmission of ideology: economic policy and the state
An empirical examination of those material activities which give ideology its content. Paying special attention to Keynesian and monetarist economic policies, the project examines state interventions and state responses to the economic crisis that has emerged since the 1970s. Case study material from the United Kingdom, Sweden and Australia is used to "test" theories of ideology insofar as they relate to theories of the state and theories of economic crisis.

Dr R.A.E. Fitzgerald
A general history of Queensland
A continuation of research into the general social, political and cultural history of Queensland from earliest times until the present.

Carl Jung and political theory
The ideas of Carl Jung as they relate to political theory and political behaviour.

Dr D. Freideland
An analysis of the tales of Edgar Allan Poe
A schema-theoretical analysis of some of Poe's tales, investigating the role of knowledge structure in the process of comprehending those tales. This analysis of the process of comprehending texts has been carried out within the framework of text linguistics and cognitive psychology.

Towards a new philosophy of literary studies
The reassessment of contemporary literary theory as an institutional form of the production of knowledge in the light of recent developments in the philosophy of science, linguistics and cognitive psychology.
Dr M.A. Hollington

*Dickens and the grotesque*

This work is a study of the idea of the grotesque in art and literature with reference to major contemporary theorists of the grotesque like Bakhtin and Keynes, of a tradition of the grotesque in European culture, and of Dickens's relation to that tradition. All Dickens's novels and most of the minor writings are scrutinised in an attempt to uncover the recurrent structure of the grotesque, the central issue being its appearance in Dickens's representation of the nineteenth century city, which generates a paradoxical realisation of the strangeness of everyday reality.

*Walter Benjamin*

This project is a study for English-speaking readers of the work of Walter Benjamin. The initial stages of the study will culminate with the later publication of an essay on a biography of Benjamin and a paper on Benjamin and English Literature.

Dr D.M. Moss

*Pastoralism and banditry in central Sardeinia*

An investigation of the relationship between transformations of pastoralism and forms of social conflict in Sardeinia since the late nineteenth century.

*Political violence in contemporary Italy: the symbols and rhetoric of terrorism*

An investigation of poverty in Italy, welfare bureaucracies and their clients with particular application to Turin.

Dr J.W. Oppen

*Florentine humanism and the civic life, 1300-1460*

The activity of a group of Florence's writers in rationalising the activities of the Florentines in relation to three major dimensions of its civic life - the family, the economy and the state - and in educating a lay spiritual elite.

A comparison of two figures - Leonardo Bruni and Leon Battiste Alberti - with regard to their attitude towards the civic life.

Professor C.F. Presley

*The place of pictures*

Research for a book on the place of pictures in semiotics and semiology, which will examine the possibility of less formal discussions of meaning and significance.

Mr S.T. Rickson

*Australia's bicentennial history project*

The project involves research on three topics for inclusion as chapters in a book on Australia's history, to be published in time for the bicentennial celebrations. The topics are: the Tasmanian aborigines in 1788; where everyone was in Australia (1808); and inmates and institutions from 1839 to 1961.

Dr J.A. Walter

*Advisers and policy-making: non-elected political leadership*

A study of the power of personal advisers over elected officials in the higher strata of Australian government.

The *language of conservatism*

An examination of the political rhetoric of Australian conservatism with particular emphasis on the continuities and discontinuities within the conservative tradition. The relations between ideological content and linguistic structure, and the psychological dynamics of this rhetoric will be considered. The implicit appeal of the conservative message will then be discussed.

Lennie Lower

*Exploratory work on a biography of an Australian journalist, humanist and novelist of the 1930s, Leanne Lower.*

*Narcissism in Australian politics*

Completion of a chapter on the uses of narcissism in Australian politics, for inclusion in an American anthology of psycho-historical essays on political leaders.

Mr P.H. Williams

*Ideology and Literature: the work of Franz Werfel*

A doctoral dissertation which deals with the politcality of processes of writing and reading in particular conjunctures. A study of specific areas of cultural theory and Australian cultural politics as they intersect with the structural concerns of political economy. In particular, this takes account of various denunciations of the Australian nation, Australian states, and the institution of Australian literature.
Mr P.H. Williams and Ms G.L. Whitlock

Enslaved politics
The editing of a collection of essays on the institution and discourses of literature.

Mr D.G. Williamson

Representations of technique
A study of the uses and understandings of technique in cinematic practices.

Language and subjectivity
An analysis of current linguistic and psychoanalytic theories of subjectivity and representation.

Ms M.F. Curry (MPhil) - A history of Australian

Postgraduate Students

Mr F. Alcorta (PhD) - A history of the labour movement in the Northern Territory

Mr P.C. Botsman (MPhil) - The concept of labour and

Dr R.R. Yeo

The cultural dimensions of the philosophy of science in nineteenth-century Britain: the social role of scientific method
The social role of scientific method in relation to the British Association for the Advancement of Science.

Mr D.G. Williamson, Dr G.D. Saunders and Mr I.R. Hunter

A case study of the trial of Lady Chatterley’s Lover
A study of the relation between practices of reading employed in legal institutions and the institution of literary studies in respect of the above trial.

Dr N.C. Zurbrugg

A comparative study of the novels of Samuel Beckett and Marcel Proust
This study pays particular attention to Beckett’s and Proust’s responses to the limits of language and perception, and offers one of the first analyses of Beckett’s first unpublished novel Dramma of Fair to Madding Conn.

William Burroughs: the critical heritage
A collection of critical reviews discussing this American novelist.

Modernism in Australia: The contemporary avant-garde
This project involves the joint edition of two collections of essays.

Ms L.F. Stanford (PhD) - Professionalisation ana the

Dr J.A. Walter

The press in colonial

1981 RESEARCH AWARDS

University Research Grant
Professor H.P. Caton - $3,500
The politics of progress
Dr S.R. Clegg and Mr G. Dow - $2,834
The economics of social class
Dr J.A. Walter - $2,730

Books
RYAN, L. The aboriginal Tasmanians. St Lucia and Vancouver, Queensland and British Columbia U.P., 1981.
Book Chapters


Journal Articles

ALEXANDER, M.I. "Historical social science: classical structure in the modern world system". The Australian and New Zealand Journal of Sociology 17: 56-64, 1981.

CATON, H.P. "The new horizon of bi-social science". Quadrant 5: 4-10, 1981.


HOLLINGTON, M.A. "Dickens the flaneur". The Dickensian 77: 71-87, 1981.

LAWSON, S. "Hindsight", Film News July 1981.

LAWSON, S. "Picnic at the pyramids". Film News November/December 1981.

LAWSON, S. "The industry so far". Film News February 1981.


WILLIAMS, P.H. "Interventions and obsessions: the work of Frank Hardy". Southern Review 14: 2, 1981.


Papers and Proceedings


ZURBRUGG, N.C. "Comparative literature and the challenge of interdisciplinarity". Paper presented to the Comparative Literature in Australia conference: Griffith University, Brisbane, 1981.

Reports and Other Publications


HOLLINGTON, M.A. "The concept of the text" by D. Woolf (review) AUMLA 55: 104-105, 1981.
Despite increased teaching loads associated with the introduction of the new Master's degree in Australian-Asian relations, research in the Centre progressed steadily. Research on the entry and resettlement of Vietnamese refugees in Australia has been concluded, and a manuscript is being completed for publication. Other major work in Australia-China relations continues to progress well. The Centre published five research papers during the year on the topic of Vietnamese refugees, on Australia-ASEAN relations and on Japanese perceptions of Australia's industrial relations.

A major innovation in 1981 was the editing and production at the Centre of national issues, a journal of contemporary international affairs, sponsored by the Queensland Branch of the Australian Institute of International Affairs. The journal, appearing four times a year, has a wide circulation in Australia and overseas.

The Centre continued its active programme of seminars, visiting scholars and involvement in community bodies during the year. The work of the Centre will be reviewed in early 1982, and new directions for research determined.

RESEARCH PROJECTS AND ACTIVITIES

Staff

Dr P. Arudsothy and Dr D. Thalib
Australian-ASEAN economic relations - trade, aid and investment in a decade
The project aims to present a comprehensive and detailed picture of the pattern of economic relations between Australia and the ASEAN countries in the late 1960s and 1970s. As suggested by the title, the project will pay special attention to the flows of trade, aid and investment between Australia and ASEAN.

Dr R. Asumi
The nature of social and personal relationships of urban Japanese
A further investigation of the impact of industrialisation and urbanisation on a traditional culture, in particular the meaning and functions of friendship vis-a-vis nationalism and kinship relations.

Mrs M.S. Boguet-Siek
Socio-cultural and social development in Peranakan Chinese society in Java
This project aims to develop an understanding of the Peranakan Chinese attitudes on particular social and cultural issues, including education, urbanisation and migration.

Dr G.P. Brown
The socio-economic history of rural Java since 1800
The aim is to chart the process of change in rural Java taking a long historical view. It is hoped to analyse the historical processes leading to contemporary conditions such as landlessness, commercialisation of agriculture, and population migration to urban areas. This research is being undertaken jointly by institutions in both Australia and Indonesia.

Dr K.S. Bucknell
Australia-China trade
The investigation focuses on the past and present, including trends, successes and problems, in Australia-China trade. It also covers general trade policy of China.

The Chinese economy
This longer term project is an evaluation of China's economic development since the emergence of socialist China in 1949.

SCHOOL OF MODERN ASIAN STUDIES

Research conducted by staff and postgraduate students in the School during the year was diverse and concerned historical, political, economic and social aspects of Asia in general, and of China, Japan, Indonesia, Malaysia and Vietnam in particular. Some major research concerned with Australian-Asian relations was completed in 1981 and several other projects were being undertaken on aspects of Australia's relations with Asia.

Research on China during the year encompassed a wide range of enquiries into the complexities of the traditional and modern periods. It included: the history of Chinese influence, the analysis of classical and modern literature; contemporary performing arts; the examination of social organisation, the economy, poverty, the role of education, the link between power and policy and the issue of nationalism versus regionalism; a review of China's history from 1842 to the present; Sino-British relations; and the examination of the role of the army in the 1911 Revolution.

In 1981 research on Japan focused on the country's political, economic and social structure during the twentieth century and on the structure and characteristics of contemporary Japanese society. Work was undertaken on the organisation and activities of Japanese companies, the modern Japanese economy and its place in the world economic order, international relations, income distribution and wage differentials, post-war literature, and on the images of Australia projected by Japanese mass media.

There are three major areas of research on Indonesia and the Malay World: aspects of socio-cultural complexity and change; the problems of developing countries; and the relationships between the countries of Southeast Asia. In particular, research focused on Indonesian foreign policy from 1945 to 1965, Australian-ASEAN economic relations, religion, reform and the critical role of religion in local life, shopping patterns in urban Southeast Asia, and the position and role of the overseas Chinese.

The Centre for the Study of Australian-Asian Relations

The Centre for the Study of Australian-Asian Relations (CSAAR) was set up in 1978 in the School of Modern Asian Studies. Its functions are to carry out research on the problems in Australia's political, economic and cultural relations with Asian countries. The Centre is administered by a Management Committee chaired by the Chairman of the School, and has among its membership faculty from the School of Modern Asian Studies and the School of Australian Environmental Studies. The Deputy Chancellor, Sir Allan Slew, is also a member of the Committee.
Religion on the legal background of religious reform. The information is to be used in a broader study of contemporary changes in Indonesia's Indic traditions.

Balinese religious reform, 1917-1959
This project traces the reconstruction in Bali of Indonesia's most recently recognized religions, Hinduism and Buddhism. Current work on the project (begun in 1976) consists of further data analysis and composition of reports on findings.

Dr P.E. Ivory
The mystification of educated youth in China, 1969-1979
Originally written as a doctoral dissertation, this project has been accepted for publication and is undergoing final revisions and updating.

A study of decision-making on dryland utilization in the People's Republic of China
A major research proposal is being prepared for a multi-disciplinary project involving a team of six to eight people from the Schools of Modern Asian Studies and Australian Environmental Studies. The project represents an effort to gain access to China for first-hand scientific and solid scientific research.

Mr N.J. Knight
Mao and history: problems in Mao Zedong's philosophy of history
This project involves an analysis of several problem areas in Mao Zedong's philosophy of history. These include Mao's philosophy of science and how this influenced his interpretation of Marxism and history, the problem of causation in social and economic terms, and Mao's conception of historical time and the future.

Professor D. Lim
Export instability in less developed countries
An examination of the effects of export instability, government revenue and expenditure on economic growth.

Tax incentives and resource utilisation in ASEAN
A study of the impact of tax incentives on the level of industrial investment and the utilisation of labour and capital. The study on Malaysia has been completed.

Defense and growth in less developed countries
Examination of whether defense spending has encouraged or retarded the economic growth of poor countries.

Dr J.A. Linton
A study of Bugis trade
This project involves an examination, through field research and use of documentary materials, of changes in the organization of the seaborne trade of South Sulawesi, Indonesia, in the social and economic organization of coastal communities engaged in such trade. Fieldwork was carried out for two months from December 1979 in a selected community, most of whose menfolk are employed on sailing vessels involved in inter-island trade. A particular study was made of the effects of mechanisation upon this community.

Professor C.P. Mackerras
Education in Nationalist China
An examination of the extent and nature of formal education from 1928 to 1949.

Chinese theatre: history and perspective
Editing a book on Chinese theatre which deals with all periods, and includes acting techniques, costumes, stagecraft, music and such social aspects as the status of actors in the various periods. The project was commissioned by the University Press of Hawaii and was completed in 1981.
Dr T. Matsumoto

The Japanese Communist Party and party writers in post-war Japan
This project deals with the relationship between the Japanese Communist Party, and party writers and writers who had been involved with the left-wing movement in post-war Japan. The study includes the disputes between the Communist Party and the writers on issues such as ideology, and the consequences of the disputes.

Mr J.J. McDonnell

Modern Japanese Literature
Preparation of an anthology of modern Japanese literature.

Ms V.J. McGown

Employment adjustment programmes in Japan
The project involves an examination of the means by which large-scale Japanese companies have attempted to deal with the excess levels of employment which have emerged as a result of the economic slump following the financial crisis of 1971 and the "oil crisis" of 1973.

Dr B.A. McMillen

The role of the Chinese production and conservation army in the borderlands
An examination of defence and security problems in China's western regions.

Dr N.M. Viviani

Khit

An examination of the transfer of modern technology to Japan, focusing on the importing and adoption of foreign technologies (sericulture and silk production) by Japanese business leaders and government in the nineteenth century, and on the relationship between that imported technology and traditional methods.

Dr J.B. Welfield

A study of Vietnamese migration to Australia
This project investigates Australian government policy on the arrival of Vietnamese refugees to Australia and their resettlement experiences in this country.

Dr D. Neer

Islam in Southeast Asia
Islam is becoming an important force in the world. The project examines Islam's contemporary development and role in Southeast Asia, paying particular attention to Indonesia, Malaysia, the Philippines, and Thailand, as well as relations with West Asia and other Muslim countries.

Mr D.C. Schak

Islam in Southeast Asia
An examination of the transfer of modern technology to Japan, focusing on the importing and adoption of foreign technologies (sericulture and silk production) by Japanese business leaders and government in the nineteenth century, and on the relationship between that imported technology and traditional methods.
a bibliography of general histories, monographs, memoirs, document collections and articles on most aspects of the political, social, economic and diplomatic history of the period 1905 to the present day.

The future of the Asian-Pacific area
This project, which is nearing completion, is an interdisciplinary analysis of possible futures for the Asian-Pacific area.

Youth attitudes to politics
This project involves assistance in a world survey of youth attitudes to international politics, war and nuclear weapons.

Postgraduate Students
Mrs M. Bocquet-Siek (PhD) - An analysis of the social and cultural attitudes of the Peranakan Chinese in Java between the first and second world wars.
Mr M.R. Dutton (PhD) - Problems and theories of socialist transition in China.
Ms M.A. Farquhar (PhD) - Children's literature in China.
Mr N.E.W. Greulich (MPhil) - Indonesian growth of a nation. The role of education in national integration and development.
Mr J. Hansfin (PhD) - Intellectual debates of the early 1960s in history, aesthetics and philosophy.
Mr P.M. Healy (PhD) - Demilitarisation: an analysis of the re-evaluation of Mao Zedong thought, 1976-81.
Mrs H.M. Hennessy (MPhil) - The significance of the growing relationship between China and Japan for Australia.
Mr N. Islam (PhD) - The politics of national integration and/or disintegration in Malaysia and Pakistan, 1967-1970: a comparative study.
Mrs B.M. Kitching (PhD) - Post-Mao developments in the economy of Sichuan province of the People's Republic of China.
Mrs B.M. Kitching (PhD) - The role of the scientist in a developing country: a case study of China.
Ms E.J. Mouer (PhD) - Sex-role socialisation, occupational choice and achievement motivation of Japanese professional career women and housewives.
Ms R. Nicholas (MPhil) - Decision-making in Australian foreign policy: an ASEAN case study.
Ms B.L. Ng (PhD) - Development of intermediate sized towns: an analysis of functional structure and migration patterns.
Mr M. Perumal (PhD) - ASEAN foreign relations, 1975-1979, with special reference to Japan and Australia.
Mr J. Selby (MPhil) - Role and status of elderly people in Brisbane (Anglo-Saxon and Chinese).
Mrs L.A. Wintour (MPhil) - The role of women in changing Papua New Guinea.
Mr C.C. Wong (PhD) - The early reign of Emperor Sung Kao-tsung (1127-1142).
Mr K. Yuan (PhD) - Ethnomusicological studies of Chinese folk songs, 1969-1977.

1981 Research Awards
Australia-Japan Foundation
Dr R.E. Mouer - $10,000
Dr J.B. Welfield - $1,500
Japanese defence policy.

Australian Research Grants Scheme
Dr R.E. Elson - $5,546
The cultivation system in Java, 1320-1370.
Dr J.A. Lineton - $5,931
A study of the Bugis-Makassar trade.

ASEAN - Australian Joint Research Project on Trade in Manufacturing
Professor O. Lim - $98,010
Demand and supply of exports of manufacturing goods from ASEAN to Australia.

Japan Foundation
Dr R.E. Mouer - $9,000
International colloquium on Japanese society.

Japan Society for the Promotion of Science
Dr R.E. Mouer - $10,000
Study of male-female wage differentials.

Japanese Studies Centre
Dr R.E. Mouer - $1,900
International colloquium on Japanese society.

University Research Grant
Dr K.B. Bucknall - $7,730
China's foreign trade and recent economic development policies.
Dr R.M. Viviani - $10,270
Vietnamese refugee resettlement in Australia.

Publications
Books and Pamphlets


NTER, D. 'Bunga rampai dari negara Indonesia [Selected writings from the country of the kangaroo]. Jakarta, Panji Masayosat, 1981.
Book Chapters


Journal Articles


Papers or Pamphlets


MOUER, R.E. and SUGIMOTO, Y. * Some methodological reservations concerning the work of Nakane Chie's work on Japanese society. Melbourne, La Trobe University, La Trobe Working Papers on Sociology, No. 83, 1980.


Other Publications


MOUER, R.E. "Ichikawa Fusae and women in Japan". Women in Asia newsletter 2: 4-5, 1981.

WELFIELD, J.B. "Comments on a paper on Australian-Japanese relations by the Rt. Hon. Tony Street, Minister of Foreign Affairs". In Australia-Japan relations symposium, proceedings and minutes, Canberra, AJS Organising Committee 1981.

* In listing publications where a Griffith University staff or student member is one of a number of contributors the name of the contributor(s) asterisked is indicated by an asterisk.
SCHOOL OF SCIENCE

In 1981, staff and postgraduate students of the School were involved in a wide range of research activities which was funded to a large extent by grants totalling $461,586 from external agencies. This funding may be compared with the total of $29,857 in 1975, the first year of teaching by the School.

Particularly notable were: a grant of $90,000 from the National Energy Research Development and Demonstration Council to Professor R.L. Segell and Dr S. Myhra, Dr P.J. Turner and Dr R. Stic. Smart to evaluate Synthrac for disposal of high-level radioactive waste; and two grants (total $91,280) to Dr A.E.W. Knight and co-investigators for their work with laser-induced unimolecular reactions and light-induced processes in biology. The Science Policy Research Centre also attracted considerable funding in 1981. A number of other research projects in the physical and biological sciences have been supported on a smaller scale, but some significant projects will receive no external funding and are carried out on limited internal funds.

The School has always placed heavy emphasis on the importance of research to University activities, and over the years an impressive range of equipment has been acquired. While much of the research in 1975 was carried out in the use of facilities at The University of Queensland and the Queensland Institute of Technology, in 1981 almost all of the School's scientific research was carried out with equipment on the Griffith University campus.

The Science Policy Research Centre

The Science Policy Research Centre was re-established in 1980 for two years. In 1981 there was considerable progress in research in the Centre, particularly in the field of energy policy, leading to the Centre having a prominent role in the 61st ANZAS Congress. The emphasis on research in energy policy questions culminated in the award of two research grants, one for a study of changes in attitudes toward domestic energy conservation measures, and one for a study of possible future patterns of energy supply and demand. The Centre attracted a steady stream of visitors, especially around the time of the ANZAS Congress. A highlight of the year was the visit of a high-level delegation from China.

RESEARCH PROJECTS AND ACTIVITIES

Staff

Dr G. Abraham
Biochemistry of bunyaviruses

The project aims to investigate some of the biochemical events during the replication of typical members of the bunyavirus family. These viruses are important because they are different from related viruses in terms of their replication mechanisms and also because akabanevirus is known to be a cause of fatal abnormalities in both cattle and sheep. Emphasis in this project centres on the RNA transcription mechanism of akabanevirus.

Dr P.F. Barron, Dr D.M. Doddrell and Dr D.E. Clegg
Solution and solid state platinum-195 nuclear magnetic resonance (NMR) relaxation parameters between solid state and chemical shift and relaxation parameters dependence on rotational behaviour

Solution state platinum-195 relaxation parameters $T_1$ and $T_2$ have been found to be field dependent for some platinum complexes. This can result in the critical loss of resolution in both platinum-195 spectra and spectra of other nuclei in the complex (i.e. $H$). The proposed explanation for this behaviour is that the electron density at the nucleus can have a large chemical shift anisotropy (CSA). The CSA can only be measured in the solid state using cross-polarisation techniques and such measurements in conjunction with solution state relaxation studies are in progress for a range of Pt(II) and Pt(IV) complexes.

Dr P.F. Barron and Dr M.A. Wilson* (CSIRO Division of Fossil Fuels, Sydney)

Silicon-29 solid state NMR of soil and clay fractions
Silicon-29 magic angle spinning NMR of clay minerals and a selection of soil type are in progress with the purpose being structural analysis of the silicates present. Silicon-29 chemical shifts are sensitive to the type of silicon tetrahedron and aluminium substitution. Using silicon-29 NMR, this type of information is obtained more rapidly than by x-ray techniques, and in certain cases provides additional structural information. Particular effort is being directed towards x-ray amorphous materials which are in fact believed to be significantly ordered and regular.

Dr P.F. Barron and Dr N.J. Russell* (CSIRO Division of Fossil Fuels, Sydney)

Solid state carbon-13 NMR of Australian coals, oil shales and woods
Structural analysis of naturally-occurring solid organic matter by normal solution state high-resolution NMR is not possible due to the insolubility of such materials. Carbon-13 CP/MAS NMR is being used to structurally characterise Australian coals to gain information on formation and liquefaction suitability.

Dr P.F. Barron, Dr R.L. Frost* (QIT) and Mr J. Skensvild (CSIRO Division of Soils)

Solid state carbon-13 NMR of soil organic matter in whole soils
Soil organic matter has traditionally been examined via harsh extractive degradative techniques which do not necessarily provide accurate structural information. Carbon-13 CP/MAS NMR does provide rapid and accurate structural information and is being used to study the organic matter in Australian soils from a wide range of environments and uses.

Dr I.A. Beacham
Molecular analysis of genes specifying periplasmic enzymes

Work on molecular cloning and sub-cloning of several genes has continued. In the case of one gene (designated dna), the DNA sequence comprising the gene has been defined as a 1.8 kb fragment and mapped with restriction enzymes. In order to study the localisation and regulation of the fork protein, the nucleotide sequence is being determined, using the dideoxy-chain termination method.

Dr M.R. Bendall

Hydrophobic microenvironmments in proteins

The study of protein hydration using chemical modification and NMR to probe small areas of globular proteins. The chemical modification work has been completed. It is hoped that NMR studies of the chemically modified proteins will provide information on the structure of water in the vicinity of active-site clefts which are lined with hydrophobic groups.

The composition of coal and coal liquefaction products

The use of new techniques such as cross-polarisation and two-dimensional spectroscopy both in the solid and liquid state to probe the extremely complex structure of coal and coal-derived products. Methods presently being developed will provide separate carbon-13 spectra of quaternary, CH (methine), CH$_2$ (methylene) and CH$_3$ (methyl) type carbon atoms.

Dr M.R. Bendall, Dr J.T. Pegg and Dr D.M. Doddrell

2D NMR and molecular simplification and for two-dimensional NMR

Following on from the basic studies performed in 1980, which produced a rigorous vector model of...
Research without these sequences were devised in 1981 and shown to enable a carbon-13 spectrum to be split up into separate CH3 (methyl), CH2 (methylene), CH (methine) and quaternary carbon spectra. Some improvedonical multipulse sequences were also generated. Two of the new sequences appear to be the best possible for their intended purposes.

Dr D.R. Biggins
Philosophy of science
Continuing research into philosophical and political aspects of science, with an emphasis on the social dimensions of scientific knowledge, science education, ideology, Marxism and science.

Dr W.K. Busfield
Post gamma-irradiation grafting in polypropylene film
A study of changes in the physical and mechanical properties of polypropylene film brought about by post gamma-irradiation grafting with butaenone and other reagents.

Dr D.E. Clegg
Early pregnancy factor
The interaction between vanadium II solutions and endrin
Reactions between low valence transition metal ions and organo-organic compounds have been used to confirm the identity of these substances when found in tissues and food. Studies of the reaction between vanadate II and endrin show that the metal ion first acts as a Lewis acid catalyst to isomerise endrin to a cyclic ketone and then as a halogen abstracting agent.

Dr J.F. Dobson and Dr A.J. O'Connor
Biochemical organisation: interstion of glycylcic enzymes with structural proteins
An electron spin resonance study of gamma-irradiated polypropylene film
A study of the effect of sample thermal history on the nature, and lifetime of radicals formed in polypropylene samples by gamma irradiation.

Dr F.M. Clarke
Biochemical organisation: interaction of glycolytic enzymes with structural proteins
A study of the structure and function of contractile systems in muscle and non-muscle cells with major emphasis on the interactions of glycolytic enzymes and the contractile proteins. In particular, the studies are directed at understanding the structural and functional implications of enzyme absorption to the cell-containing filaments of cells, and how these interact with the contractile proteins. Several biochemical and physiological, immunofluorescent and electron microscopic studies indicate that these interactions may be of fundamental importance not only in the organisation and control of the glycolytic system but may also influence the organization and function of the contractile systems themselves. A thorough knowledge of such interactions is essential to the understanding of biochemical organisation within cells.

Dr D.F. Burch
Overseas aid and the transfer of technology
This study is concerned with analysing the factors influencing the choice of technology under aid programmes of the Third World, and the social, political and economic consequences of such choices. The study concentrates on past and present British aid, and includes a case study of the choice of agricultural technology for peasant production of rice in Sri Lanka.

Dr M. W. Bridgstock
Research without integrity
A study of factors leading to "cheating" in science (for example, falsifying results). A preliminary survey is also being made of powerful explanatory models in the social sciences.

Dr F.M. Clarke
Studies of the crystallisation kinetics and the mechanical properties of cross-linked polycaprolactone-based polyurethanes
An electron spin resonance study of gamma-irradiated polypropylene film
A study of the crystallisation kinetics and the stress strain diagrams for this class of polymers categorised by the unusual molecular characteristic of crystallisation from a cross-linked matrix.
is concerned with the more difficult regime of slow and intermediate noise fluctuations. Both rigorous results and useful approximations schemes are being developed. Possible applications include investigations of catalysts via NMR.

Dr J.F. Dobson and Dr J.H. Rose* (University of Iowa) 

(hypothetical electron-gas theory) 

Many electronic phenomena can only be understood properly when the correlations between electrons are not taken into account. Examples are: molecular energies, density-functional properties of insulators, and metal cleavage energies.) The Local Density Functional Theory of Kohn and Sham has recently become a popular way to calculate electronic correlation effects. This theory has a serious defect, however, in that it allows a localised electron to interact with itself. The present project concerns a modified Kohn-Sham theory which avoids the above-mentioned defect. Possible applications are in chemistry (accurate ab initio energy calculations for molecules which are too large for the configuration interaction method) and physics (band calculations for insulators, semiconductors and semi-metals).

Dr J.F. Dobson and Dr J.H. Rose* (University of Iowa) 

Theory of metal surfaces 

The study of metal surfaces is vital in connection with catalysis, adhesion and a variety of other important applications. The aim of this work is to obtain a true theoretical understanding of metal surfaces using no phenomenological adjustable surface parameters. Firstly, an imaginative electron-gas linear-response approach has been developed. This has yielded the best results in existence to date for the faceting-dependent surface energies of the simple metals at T = 0 K. Formal expressions have also been obtained for the temperature-dependent surface free energy.

Mr. I.W. Eddington and Mrs. N.J. Eddington* (Noise Abatement Authority, Queensland Government) 

An enquiry into public policy for the encouragement and management of individual innovativeness in Australia. 

This study seeks to outline public policy strategies for the encouragement of invention and innovation in Australia.

Health effects of technology: occupational deafness 

This research has led to the invention of a nonogram which, in itself, constitutes a general proof that industrial deafness can be prevented. The nonogram is currently being applied in industrial establishments as a preventive strategy against cognitive dissonance. Specifically, the nonogram is being used to assess worker tasks on the basis of their associated risk potential for noise-induced hearing loss.

Dr J.S.H. Elkington 

Sacramento populations from denolli cells 

The Sertoli cells in the testis appear to control the progression of germ cells from spermatogonia to spermatozoa. The Sertoli cells may achieve this by secreting substances which bind to the germ cells. This project investigates the proteoglycans secreted by Sertoli cells in vitro and in particular is concerned with their characterisation and hormonal control.

Dr H.P.W. Gottlieb 

Detection of isozymes (enzymes encoded by multiple loci) in mammalian tissues. The availability of inbred strains, linkage mapping and theoretical analysis of inorganic oxide systems. 

This project involves the preparation of crystalline samples of oxygen complexes with transition metal cations, and the analysis of these complexes using the techniques of infrared spectroscopy and x-ray diffraction spectroscopy. The work is extending the range of the known co-ordination chemistry of oxygen species, as well as providing extended correlations between the structural and spectroscopic parameters of the systems involved.

Dr R.S. Holmes and Ms E. Yeoman 

Variability of plankton populations on coral reefs 

This project involves a study of the variability of introduced and naturally occurring plant populations on coral reefs. Initially, the development of a model organism (Cymodocecola subaestuata) recently introduced to a number of islands in the Capricorn group, is being studied at the genetic and ecological level.

Dr R.S. Holmes and Dr J. Juley 

The genetic and biochemical regulation of mammalian alcohol metabolisation. 

Ethanol is metabolized in mammals predominantly in the liver by the sequential activity of the enzymes, alcohol dehydrogenase and aldehyde dehydrogenase. Both of these enzymes exist in isozymic forms in mammalian tissues and are encoded by multiple structural genes in the mouse. Using inbred strains of mice with genetic variants for these enzymes, studies on the genetic regulation, development, hormonal dependence and biochemical properties of these enzymes from mouse tissues are being carried out. Metabolically related enzymes such as aldehyde oxidase, xanthine oxidase and aldehyde reductase are also being studied.

Genetically, biochemically and evolutionary studies on mammalian alcohol metabolisation. 

This project involves a study of the genetic, biochemical and evolutionary properties of isozymes (enzymes encoded by multiple loci) in mammalian organisms. The house mouse, Mus musculus, is used as a model organism because of the availability of inbred strains, linkage mapping and theoretical analysis of inorganic oxide systems. 

Molecular orbital calculations.
knowledge of the genetic map of this organism. Individual iso-enzymes under investigation include sorbitol dehydrogenase, fatty acyl CoA dehydrogenase and carbonic anhydrase.

Dr. R.S. Hynes, Ms. L. Lester and Professor P.A. Parsons (La Trobe University)

Evolutionary genetics of *Drosophila melanogaster*

A population genetic analysis of Australian *Drosophila* species is being undertaken in collaboration with Professor P.A. Parsons of La Trobe University. These studies use electrophoretic and enzymological zymogram methods as a means of defining the population and species similarities and differences in molecular terms. The data are correlated with ecological analysis of these species (at La Trobe University) to examine whether there is any genetic heterogeneity and correlations with ecological versatility.

Dr. G.A. Hope

Pressure effects on low temperature metal oxidation

An investigation of the early stages of oxide formation, for films between 0.5 mm and 10 mm thick. The project is extending the range of metal oxidation reactions studied to include metals manganese and iron, using electrical resistance and ellipsometric techniques to follow the reaction progress. It is also important to the understanding of the reaction, that the mechanism of oxidation be determined, and experiments which probe the diffusion process during the oxide growth are undertaken. In this way, the actual experimental dependence of oxidation rate on pressure is being delineated, with the ultimate aim of a more sound theoretical understanding of the process of metal oxidation.

Dr. G.A. Hope, Professor A.J. Bard* and Dr. F.F. Fan*

(University of Texas)

Photoelectrochemical reactions of semiconducting metals manganese and iron, using electrical spectroscopic techniques. The techniques, Auger Electron Spectroscopy (AES) and X-ray photoelectron spectroscopy (XPS), can provide valuable information on the nature and extent of the oxidation reaction particularly when used in conjunction with ion bombardment techniques to depth profile the samples. This information, when combined with a study of the oxidation mechanism and reaction kinetics, will provide definitive information on the nature of the reaction between palladium and ceramic materials.

Dr. G.A. Hope, Dr. B.G. Baker* and Associate Professor H.J. De Bruin* (Flinders University)

Synthesis of carbohydrate phosphonates

Relatively little biochemical investigation has been reported using phosphonic analogues of carbohydrate phosphates. In the particular case of glycosyl phosphonates virtually no work has been published, yet glycosyl phosphonates are extremely important intermediates in biochemical glycosyl-transfer reactions. For example, glucose-1-phosphate is the key intermediate in the biosynthesis of the entire family of sugars and polysaccharides. Formation of a glycosyl phosphonate ester greatly facilitates the cleavage of the glycosyl-oxygen linkage. The corresponding glycosyl phosphonate on the other hand would not be cleaved owing to the high stability of the carbon-phosphorus bond. The aim of this project is to develop synthetic glycosyl phosphonates, in particular 2-glucose-1-phosphonate and 2-fructose-2-phosphonate. The first compound could prove of great significance in biochemistry as an analogue of glucose-1-phosphate, while the second is of relevance to another research project on the mechanism of action of invertase.

Dr. I.D. Jenkins and Professor R.D. Guthrie

Carbohydrate phosphonates: synthesis by the DEAD-TPP system

Glycosides (oxirans) are most useful synthetic intermediates in organic synthesis, particularly for the preparation of modified carbohydrates (deoxy-sugars, amino-sugars). Recently, the dienylidiazodicarboxylatetriphenylphosphine (DEAD-TPP) system has been used in a facile synthesis of oxirans from trans-1,2-diols. We are continuing a study of the application of this reaction in carbohydrate chemistry and have synthesised a few steps epoxides not previously prepared.

The mechanism of the Mitsunobu reaction

The Mitsunobu reaction, utilising as reagents the combination of triphenylphosphine and diethylazodicarboxylate, has been widely used for a variety of reactions of alcohols during the past decade. However, little formal study has been made of the mechanism of the reaction. We are currently investigating this mechanism by phosphorus-31 NMR spectroscopy and have obtained the first evidence for the formation of phosphonate intermediates. These studies are continuing with the help of the Brisbane NMR Centre.

Dr. A.E.W. Knight

Vibrational and rotational energy transfer in polyatomic molecules

This project involves laser excited fluorescence spectroscopy and decay time measurements of selected rotational and vibrational levels in small polyatomics of astrochemical importance, directed towards establishing propensity rules and cross sections for collisional energy transfer. Supersonic molecular beam studies of collisional interactions are also being undertaken.

Dr. A.E.W. Knight, Dr. J.H. Forbes* (University of Adelaide), and Ms. P. Cowley

Photomodulation therapy of malignant tumours

Collaborative work with the Queen Elizabeth II Hospital in Adelaide on exploring the use of pulsed lasers in treating photochemically sensitive tumours and in determining the mechanisms of the photochemical processes involved.

Dr. A.E.W. Knight, Dr. J.H. Forbes* (University of Adelaide) and Mr. K.C. Kim (University of Adelaide)

Multiphoton dissociation of polynucleotides

Theoretical studies of laser-driven unimolecular dissociation, and experimental studies of carbon dioxide laser initiated multiphoton dissociation in polynucleocides.

Dr. A.E.W. Knight and Dr. P.J. Rogers
Dr I. Lowe

Future energy demand

Comparative studies of the changing pattern of energy use in different industrialized countries have been conducted, providing insights into the likely pattern of future demand in Australia. Electricity demand forecasts by the various States have been reviewed, revealing the problems of different approaches as being studied.

Impact of conservation campaigns

Several industrial countries have now been operating fuel-conservation campaigns for some years. A comparative study of the measures used in different countries to conserve fuel has been carried out, and the effectiveness of different approaches has been analysed.

Alternative liquid fuels

Future Australian oil production and various possible production profiles for alternative liquid fuels are being modelled to assess the possible role of alternative fuels in meeting future needs.

Impact of policies on solar hot water systems

Sales of solar hot water systems in Australia have been studied in the light of prevailing State policies. This study will be extended in 1982 by a survey of a sample of recent purchasers of solar hot water systems, aimed at evaluating the factors influencing their choice, in an attempt to determine the effect of government policies on the implementation of these systems.

Energy and housing

Energy impacts to different styles of house have been evaluated. Temperature excursions in summer and winter have been logged for a sample of houses, categorised into a range of construction styles. The concluding phase of this study will be the combination of these two sets of data to determine the energy requirement for thermal comfort as a function of climate and construction style.

Dr I. Lowe, Dr W. Bridgstock, Mr E. Eddington and Mr D.J. Crossley (Monash University)

Professor C.J. Masters, Dr R.S. Holmes and Dr E. Klucis

The biochemistry of peroxisome

Peroxisomes are subcellular organelles of broad occurrence and distribution in mammalian tissues which contain enzymes associated with hydrogen peroxide metabolism (oxidase and catalase) and fatty acid oxidation. This project is designed to investigate various aspects of peroxisomal biochemistry which are presently ill-defined, including peroxisomal biogenesis, enzymology, development, metabolism and comparative properties of the organelle.

Professor C.J. Masters, Dr M. Kutlar and Mr S. Reid

The biochemistry of growth and tissue differentiation

This project is concerned with a biochemical definition of tissue differentiation. It gives recognition to the fact that distinctions between the cell types of vertebrate animals may be attributed in large part to differences in protein and enzyme composition, and is concerned with the biological significance of enzyme realization. In particular, the interactions of enzymes with the cellular microenvironment are being studied (for example, the interactions between glycolytic enzymes and the contractile protein of muscle), along with the turnover characteristics of specific proteins during physiological perturbations (for example, changes in the rates of synthesis and degradation of lactate dehydrogenase during embryogenesis). A number of isozyme systems are being used in all aspects of these studies, as well as in the definition of genetic aspects of the developmental processes.

Dr A.J. O'Connor

Thermal properties of the foda lattice

The statistical and dynamic properties of this system have been studied. The statistical properties are reasonably well understood and it is now proposed to combine this with a knowledge of the dynamics. The aim of this project is to understand the relaxation of this non-linear system to thermal equilibrium.

Study of a class of non-linear integral equations

A particular type of equation arises frequently in the study of heat transfer between solids and gases. The mathematical structure of these equations is being studied to see if the method of Pade approximants might be applicable.

Dr D.J. Pegg

Maser spectroscopy

This project studies isotope separation by laser pulses.

Reality and causality

Thinking continued on the relation between reality and complete forward-time causality. Detailed calculation of the results of photon cascade experiment illustrated the mutual exclusiveness of the two concepts and showed partial backward-time causality to be a real alternative. However, further thinking is necessary to find a distinguishing experiment.

Professor R.L. Segall, Dr S. Myhring, Dr R.T.C. Short, Dr J.S. Turner and Dr D.M. Leving (Australian Atomic Energy Commission)

The chemical and physical stability of solids for radioactive waste disposal

The project, undertaken in collaboration with the Australian Atomic Energy Commission, is concerned with studies of the microstructure, surface attack, dissolution processes and radiation damage in oxides, glasses and Synroc (a synthetic rock mineral assemblage) proposed for incorporation of high-level radioactive waste. A wide variety of different physical and chemical techniques are used to correlate information, for example, analytical electron microscopy, surface analysis, hydrothermal dissolution rate measurements, infrared spectroscopy. In oxides and glasses, effects of alpha, beta and gamma irradiation on dissolution enhancement are small. Pressure increase has similarly little effect on glass dissolution. Composition and temperature are critical factors in maintaining resistance of glasses to dissolution. Synroc is considerably more resistant to chemical attack at high temperatures. The microstructure of Synroc is complex, and fault accommodation with parallel microstructure and surface analysis studies, is being investigated to minimize leaking of elements responsible for possible radioactive hazards. Dissolution characteristics of all three forms as a function of composition, temperature, pH and other variables are being defined in a continuing experimental programme.

Dr M.C. Standage and Dr W.R. MacGillivray

Cohomology and optical transients and optical invisibility in atomic systems

In this project, the spatial interactions of intense single-mode laser radiation with atoms have been studied both experimentally and theoretically. The major experimental technique used to date has been the application of very fast
step-function electric field pulses to an atomic vapour. The pulses stark frequency switch atoms into or out of resonance with the laser radiation. Atoms switched into resonance interact resonantly with the optical electric field via the dynamic stark effect giving rise to Rabi oscillations. These Stark-shifts in resonance fluorescence scattered both collinear with, and at right angles to, the laser beam. The study of these effects provides new tests for quantum electrodynamics and for other theories under the interaction of radiation and matter. Free induction decay signals emitted by atoms switched out of resonance have been utilised in the development of a new high-resolution method for measuring absolute and differential stark shifts caused by the electric field pulses applied to the atomic vapour. Further experiments using this method are planned.

Rabi frequency switch atoms in and out of resonance with the optical electric field. Under these conditions, optical bistability in atomic vapours is also underway. Optical bistability arises when an optical device possesses two steady-state transmission levels for a given input radiation intensity. In this work, the optical device is a Fabry-Perot etalon containing an atomic vapour cell. The present aim is to investigate the co-operative phenomena which underlie optical bistability effects observed in such a device and to study the transient behaviour as the device switches between those states.

The aim of this project is to utilise a combination of laser excitation and coincidence techniques to study low energy electron-atom collision physics. Stepwise techniques are used which involve the excitation of atoms in an atomic beam by electron bombardment followed by laser excitation to higher states. Line polarisation measurements and electron-photon coincidence measurements on fluorescence permit the electron-excited processes to be studied. An apparatus is currently in use, which allows crossed electron-electron beam and laser beam experiments to be carried out both in line polarisation and electron-photon coincidence studies on a variety of atomic species. A variety of new experiments are made possible by this technique. The use of single-mode laser excitation allows the role of fine and hyperfine structure effects in atomic collision physics to be studied. New ways of studying the electron excitation of various ultraviolet transitions and the excitation of metastable levels are opened up. An area of particular interest is the application of stepwise techniques to study collision processes in which short-lived negative ion states are involved.

Or D.V. Thiel

*Development of a new VLF prospecting system*

An antenna/receiver system for making very low frequency (VLF) surface impedance measurements on the earth's surface is under construction. Two closely spaced antennas with independent identification capabilities are employed to determine the surface impedance in the vicinity of a conductive ore body. Further optimisation of the electronics and extensive fieldwork are planned to develop this geophysical prospecting instrument to its full potential. Surface impedance measurements at higher and lower frequencies using the same instrument are also possible and will allow some depth resolution of the earth's conductivity profile.

Apparent angle of arrival measurements at high frequency

The apparent angle of arrival of naturally-occurring electromagnetic radiation is important in electromagnetic studies of the earth's surface. Preliminary work on a ground-based antenna array monitoring a fixed very low frequency (VLF) transmitter has shown that, at dawn and dusk, dramatic changes occur in the free space wave impedance angle of incidence of the signal.

*Horizonal wire dipole impedance measurements in the vicinity of an earth plane*

A number of contradictions are evident in theories describing the input impedance of a horizontal wire in the vicinity of conductive earth plane. A tiny automatic battery-powered impedance bridge is under construction in an attempt to resolve this problem experimentally.

Dr P.S. Turner

*High resolution electron microscopy of crystal surfaces*

A variety of techniques may be used to obtain information about the structure of crystal surfaces, down to atomic detail. While phase contrast offers the highest resolution of detail, new methods involving reflection of electrons from surfaces in the transmission microscope are being investigated since they are very sensitive to minor surface imperfections.

Dr P.S. Turner, Professor R.L. Segall and Dr R.S. Smart

*Electronic and surface structural effects on the dissolution rates of some semiconductors and insulating oxides*

The role of surface and bulk defects in the kinetics of chemical reactions is being investigated in a study of the dissolution rates of both semiconducting and highly insulating oxides. Dissolution studies of nickel and cobalt oxides have been extended to manganese and aluminium oxides, to clarify the role of the electronic defect structures. Studies of cobaltous oxide in various forms, using high resolution electron microscopy, infrared spectroscopy and precise dissolution measurements, have led to new understanding of the nature of the surface structure at the oxide-electrolyte interface.

Postgraduate Students

Mr B.J. Arnison (MPhil) - Dissolution kinetics of cobaltous oxide
Ms A.S. Blake (MPhil) - Molecular properties of peroxisomal enzymes
Mr W.M. Brookes (PhD) - NMR studies of molecular systems
Mr D.M. Burns (PhD) - Bacterial and yeast molecular genetics
Mr B.R. Causens (PhD) - Dissolution studies of radiation damage in glasses
Mr D.L. Crane (PhD) - Turnover studies on catalases
Mr J.C. Dyason (PhD) - Physical and inorganic chemistry as applied to biological systems
Mr A.M. Garrett (MPhil) - Structure and function of pyruvate metabolising enzymes in Rhodopseudomonas capricornii
Mr W.J. Gilchrist (PhD) - Science education in a developing country
Mr J.H. Gera (MPhil) - Indigenous phosphates for the Australian fertiliser industry: a technology assessment
Ms J.P. Hardy (PhD) - Time-resolved spectroscopy of biological processes
Mr K.W. Hart (PhD) - High temperature strength of high conductivity Cu-Cr alloys
Mr C.F. Jones (MPhil) - Dissolution kinetics of ionic oxides
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<tr>
<th>Name</th>
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<tr>
<td>Mr K.H. Kleinschmidt</td>
<td>PhD</td>
<td>Theory of NMR relaxation in condensed water systems</td>
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<td>Mr L.S. Kurth</td>
<td>MPhil</td>
<td>Studies of crosslinking in protein</td>
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<td>Mr J.A. Laurent</td>
<td>PhD</td>
<td>Influence of developments in scientific and technical education on labour</td>
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<td>Mr L.M.H. von Itzstein</td>
<td>PhD</td>
<td>Chemical reaction dynamics</td>
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<td>Mr R.A. Lewis</td>
<td>PhD</td>
<td>Modification of nuclear waste solids under hydrothermal conditions</td>
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<td>Miss A.R. McKenzie</td>
<td>MPhil</td>
<td>Photochemistry of semiconductor surfaces</td>
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<td>Mr C.W. McLucas</td>
<td>PhD</td>
<td>Laser spectroscopic studies of molecular systems</td>
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<td>Mr T.G. Parsons</td>
<td>MPhil</td>
<td>Collisional energy transfer in polyatomic molecules</td>
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<td>Mr G.J. Patch</td>
<td>MPhil</td>
<td>An investigation into the reduction of chlorinated hydrocarbons by vanadium</td>
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<td>Mr A.K. Pattnaik</td>
<td>PhD</td>
<td>Control of gene expression</td>
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<td>Mr W.R. Peace</td>
<td>MPhil</td>
<td>Dissolution studies and surface characteristics of nickel oxide</td>
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<td>Mr G.S. Pegg</td>
<td>PhD</td>
<td>Peroxisomal biochemistry</td>
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<td>Mr P.N. Proschogo</td>
<td>MPhil</td>
<td>Analysis of fats and oils</td>
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<td>Mr A.W. Reed</td>
<td>MPhil</td>
<td>A comparative assessment of methods for the estimation of free fatty acids at</td>
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<td>Mr S. Reid</td>
<td>MPhil</td>
<td>Interactions of glycolytic enzymes with structural proteins</td>
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<td>Mr W. Schulz</td>
<td>PhD</td>
<td>Study of optical bistability in atomic systems</td>
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<td>Mr B.J. Shay</td>
<td>MPhil</td>
<td>Plasmid mediated amino-acid metabolism in the lactobacilli</td>
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<td>Mr W.S. Spunde</td>
<td>PhD</td>
<td>A comparative study of Government methods of stimulating industrial innovation</td>
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<td>Mrs P. Stephon</td>
<td>PhD</td>
<td>Biochemistry</td>
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<tr>
<td>Mrs J.T. Tellem</td>
<td>MPhil</td>
<td>Enzymes of Brochothrix thermosphactum</td>
</tr>
<tr>
<td>Mr D.M. Thomas</td>
<td>PhD</td>
<td>Polarisation transfer based NMR spectroscopy</td>
</tr>
<tr>
<td>Mr E.K. Thompson</td>
<td>PhD</td>
<td>Male reproductive physiology</td>
</tr>
<tr>
<td>Mr L.M.H. von Itzstein</td>
<td>PhD</td>
<td>Aspects of DEAD-TPP type reactions and applications in organic synthesis</td>
</tr>
<tr>
<td>Mr R.R. Welling</td>
<td>MPhil</td>
<td>The impact of computers and computing technology on Queensland high school</td>
</tr>
<tr>
<td>Mr J.M. Whitta</td>
<td>MPhil</td>
<td>Determination of priorities in Australian research and development</td>
</tr>
<tr>
<td>Mr M.S. Wilson</td>
<td>PhD</td>
<td>Reproductive immunology</td>
</tr>
<tr>
<td>Ms E.J. Yeoman</td>
<td>PhD</td>
<td>Variability of island populations of native plants</td>
</tr>
</tbody>
</table>

### 1981 Research Awards

**Australian Associated Brewers**

- **Dr R.S. Holmes**: $15,000
  - Genetic and biochemical studies on enzymes of alcohol and aldehyde metabolism

**Australian Atomic Energy Commission**

- **Dr R. StC. Smart, Dr S. Myhra, Dr P.S. Turner, and Professor R.L. Segall**: $5,500
  - Surface and bulk modification of nuclear waste solids under hydrothermal leaching conditions

**Australian Institute of Nuclear Science and Engineering**

- **Dr W.K. Busfield**: $2,000
  - Irradiation effects on structure of polypropylene

- **Dr S. Myhra**: $2,700
  - Radiation damage in semiconductors

- **Professor R.L. Segall, Dr R. StC. Smart and Dr P.S. Turner**: $2,160
  - The effect of gamma irradiation on the dissolution rate of magnesium oxide

**Australian Meat Research Committee**

- **Dr G. Abraham**: $3,405
  - Biochemical characterisation of bunyaviruses

**Australian Research Grants Scheme**

- **Dr I.R. Beacham**: $7,600
  - The cellular localization of the amidine diprophosphoglucosidase enzymes of **Drosophila similis** and Escherichia coli: biochemical and genetic studies

- **Dr R.M. Clarke**: $5,750
  - The interaction of glycolytic enzymes with structural proteins

- **Dr O.M. Doddrell, Dr D.T. Pegg and Dr M.R. Bendall**: $22,920
  - Structural application of multi-pulse nuclear magnetic resonance (NMR) spectroscopy

- **Dr J.S.H. Ellingston**: $6,300
  - Secretory products from Serratia marcescens

- **Professor R.G. Guthrie and Dr I.D. Jenkins**: $6,500
  - Carbohydrate metabolism: synthesis by the DEAD-TPP system

- **Dr R.S. Holmes**: $14,000
  - Genetic, biochemical and evolutionary studies on lactase genes from higher organisms

- **Dr A.E.W. Knight**: $32,470
  - Mechanisms of infrared laser-induced unimolecular reactions

- **Dr A.E.W. Knight and Dr P.J. Rogers**: $18,810
  - Time-resolved tunable laser resonance Raman spectroscopy of light-induced processes in biology

- **Dr W.R. MacGillivray and Dr M.J. Standage**: $1,200
  - Atomic collision studies using attosecond electron-laser correlation

- **Professor C.J. Masters and Dr R.S. Holmes**: $2,200
  - The biochemistry of peroxisomes

- **Professor C.J. Masters**: $20,083
  - Enzyme mechanism and ontogeny

- **Dr R.J. Rogers**: $6,000
  - Structure and function of boas-modulating effects of chemical modification

- **Dr R. StC. Smart, Dr P.S. Turner, and Professor R.L. Segall**: $15,760
  - Dissolution rate control in semiconducting oxides
Dr R. St.C. Smart, Dr P.S. Turner and Professor R.L. Segall - $12,361
High resolution electron microscopy and infrared studies of surface structures of metal oxides: the role of the water molecule

Dr M. C. Standage and Dr W.A. MacGillivray - $32,576
Coherent optical transitions in atomic transitions

National Energy Research, Development and Demonstration Council
Dr I. Lowe - $37,796
Australian energy demand, 1980-2020
Professor R.L. Segall, Dr S. Myhre, Dr P.S. Turner and Professor R.L. Guthrie and Dr I.D. Jenkins - $5,600
Demonstration Council
Dr D.V. Thiel - $1,300
Dr I.R. Beacham - $4,500
National Health and Medical Research Council
Dr O.R. Holmes - $14,340
Radio Research Board
Dr R. St.C. Smart - $90,000
University Research Grant

APPROVED GRANTS

Dr M.G. Standage and Dr W.R. MacGillivray

Dr P.S. Turner and Professor R.L. Segall, Dr S. Myhre, Dr P.S. Turner and Professor R.L. Guthrie and Dr I.D. Jenkins - $5,600

Dr D.V. Thiel - $1,300
Dr I.R. Beacham - $4,500
Professor R.L. Segall, Dr S. Myhre, Dr P.S. Turner and Professor R.L. Guthrie and Dr I.D. Jenkins - $5,600

Dr D.V. Thiel - $1,300
Apparent angle of arrival measurements at high frequency

Dr R. St.C. Smart - $90,000

Dr I.D. Jenkins - $3,200

Dr P.S. Turner and Professor R.L. Segall, Dr S. Myhre, Dr P.S. Turner and Professor R.L. Guthrie and Dr I.D. Jenkins - $5,600

Dr D.V. Thiel - $1,300

Dr I.R. Beacham - $4,500

Dr P.S. Turner and Professor R.L. Segall, Dr S. Myhre, Dr P.S. Turner and Professor R.L. Guthrie and Dr I.D. Jenkins - $5,600

Dr D.V. Thiel - $1,300


LOWE, I. "Australia's energy policy compared with attitudes to energy use in Western Europe". Paper presented to the 51st ANZAAS Congress, Brisbane, 1981.


LOWE, I. "Is technology scientific?" Paper presented to the 51st ANZAAS Congress, Brisbane, 1981.

LOWE, I. "How good are the numbers?". Paper presented to the Commonwealth Science Statement Workshop, Wollongong, 1981.


Papers and Proceedings


* In listing projects or publications where a Griffith University staff or student member is one of a number of contributors, the name of any contributor external to the University is indicated by an asterisk.
The introduction in 1980 of a new teaching activity, the School of Social and Industrial Administration, opened up new areas of research for the University, as the following examples show.

The benefits and cost implications of variable repayment mortgages are being presented for study in a mathematical model to be developed by Professor John Rickard, Mr Ken Moores and Mr Ray McKean, working on the project for the Reserve Bank's Economic and Financial Research Fund. The research team recently carried out a detailed theoretical analysis of variable amortisation schedules in order to compare their effect on risk to the lender, cash flow patterns, burden (the ratio of loan repayment to net disposable income), and to the debt/equity composition. The next stage of the project involves the creation of a mathematical model which will test the viability of variable amortisation schedules in different market conditions.

Mr John McCallum offers retirement teaching programmes to adult students, in co-operation with the Queensland Council on the Ageing. He is concerned with the development of a positive retirement policy, and directs most of his research effort in 1981 towards the identification of new opportunities for people who wish to lead an active retirement.

While Australia has a sophisticated national model for studying industries and their effects on the economy, Japan is far in advance of Australia both with regard to examining the international economy, and to details of particular industries in its national economy. A new international economic model, which is the subject of Mr Joe Mulia's research, is intended to cover national and international influences in combination with details of particular Australian industries at any one time. A teleconference by satellite link between researchers in Japan, Australia, New Zealand and Hawaii will promote discussion of the new model.

The number of members of faculty grew significantly during 1981, from 14 in January to 24 in December. Despite the planning pressures, faculty were actively engaged in a variety of research projects.

**RESEARCH PROJECTS AND ACTIVITIES**

**Staff**

Mr D. Chinchen

The development of a causal path model of exploratory behaviour in suburban shopping centres

Ms E.A. Gillies and Professor J.A. Rickard

The relationship between optimal stimulation levels and environmental perception and preference.

Ms J.A. Rickard

The relationship between organisational structure and participation processes.

While much attention has been paid to the social and political consultants of face-to-face and participative processes, comparatively few studies have focused on the relationships between environmental uncertainty, organisational structural variables and modes of participation. This study is an exploratory investigation of such relationships through an analysis of participation in ten organisations.

Dr N.J. Hathaway

**Changes in employment by industry, 1971-1979**

For both Australian and Victorian employment data, an analysis is being carried out of changes in employment. This analysis is based on the Australian Standard Industrial Code (ASIC) data published both after the 1971 Census and 1976 Census. The calculations have been performed for the growth rates based on the four-digit ASIC code. It is planned to extend the analysis to 1981 when the data becomes available from the Australian Bureau of Statistics. As Victoria has sustained a population loss to the other states, particularly Queensland, it is hoped to identify the effect of these trends within particular industries.

Dr N.J. Hathaway and Dr J.V. Remenyi* (Deakin University)

**Australian unemployment**

An analysis of Australian unemployment, 1969-1979, is being undertaken. Attention has been paid in particular to differences in unemployment by sex, age and duration of unemployment. Unemployment series of monthly data have been constructed for these categories. Seasonally-adjusted series have been derived from these constructions. The interaction of inflation and unemployment is also being investigated.

**VoLatility estimation**

Share prices exhibit random fluctuations over time. These fluctuations or volatilities have major implications for investment. They are also directly involved in option pricing models. Estimating these volatilities has statistical difficulties in that they themselves are unstable values. As volatilities of shares have a strong influence on the return on the asset, forecasts of these volatilities are of very practical use. Estimates have been completed for those shares that also have associated options traded on the Australian Options Market (AQM).

Dr N.J. Hathaway, Dr A.F.T. Payne* (University of Melbourne) and Professor J.A. Rickard

Research has continued into the derivation of a pricing model for options based on discrete transactions in shares and options. The risk involved in not maintaining a constant hedge has been investigated. Deficiencies have been identified and studied within existing continuous models. Numerical studies of the option model under construction have been performed. These have given indications towards further development.

Mr J. McCallum

**Retirement survey: the Queensland State Service Superannuation Fund.**

An evaluation of the effectiveness of the Retirement Education Programmes provided by the Queensland State Service Superannuation Fund. A mail survey of some 2,000 ex-contributors achieved a 70 percent response rate on questions covering personal characteristics, perceptions of the programmes, practical steps taken, investment behaviour and life satisfaction.

Dr N.J. Hathaway and Dr J.V. Remenyi* (University of Melbourne) and Professor J.A. Rickard

**Opportunities for industry participation**

Research has continued into the derivation of a pricing model for options based on discrete transactions in shares and options. The risk involved in not maintaining a constant hedge has been investigated. Deficiencies have been identified and studied within existing continuous models. Numerical studies of the option model under construction have been performed. These have given indications towards further development.

Mr J. McCallum

**School-to-work in the Queensland Catholic education system**

An analysis of extent data from students, ex-students, parents and teachers over a wide range of variables. Data have been collected by the Queensland Catholic Education Office, and the work will continue in 1982.

Ms E.A. Gillies and Professor J.A. Rickard
Mr J.M. Mule
The work of Prigogine's and Maruyama's heterogenistics
The project involves researching the work of Prigogine and Maruyama concerning heterogenistics. The implications of the epistemological basis of heterogenistics for systems theory and organisational theory were also discussed. Until recently, questions of intra-group heterogeneity were treated from the epistemological point of view in terms of non-linear, hierarchical and non-linear epistemology. The "new" epistemology was found to relate to conflict theory. Maruyama claims that heterogeneity can no longer be regarded as accidents, errors, deviations from the average or necessary evil. Heterogenisation is basic to development, organizational sophistication and evolution. The "new" epistemology legitimates organizational theories which provide for diversity rather than homogeneity.

Mr K.J. Moores
A framework for the analysis of budgetary behaviour in participative environments
The identification and legitimation of a framework for the evaluation of the social dimensions of budget development. A framework was identified and discussed through consideration of participation in the budgetary process. This framework is then applied to the evaluation of budgetary behaviour through examination of certain budget games.

Mr J.K. Moore and Mr G.T. Steadman
The conceptual viewpoints of accountants
The objective of the study is to empirically test the hypothesis that corporation accountants subscribe to an entity viewpoint while their counterparts in professional practice adopt a proprietary viewpoint. The entity/proprietorship debate has long been at the centre of disagreement over generally accepted accounting principles.

Mr J.M. Nula
Australian Resource and Environment Assessment (AREA) Modelling project
The AREA project is an attempt to add long-term perspective analysis to policy-making. Work to date has resulted in the development of AREA as a macro-economic model, capable of quantifying in broad terms stress on the Australian environment, as well as the impact of the Australian economy resulting from potential changes in the patterns of trade among world regions. AREA has been used in the Japan-Australia Work (JAW) project and the Global Models and the Policy Process (G-MAPP) project.

Global Models and the Policy Process (G-MAPP) project: the Indian Ocean Basin (the Open Oceans, East-West Centre, Honolulu, Hawaii)
Building on the work of the AREA project and the JAW project, the G-MAPP project applies two models (AREM and PLUG) [A new Global Interdependence Model developed in Japan] to evaluate development scenarios for the Indian Ocean Basin, particularly as they affect the development of India and other South Asian countries. These models were linked, in a limited way, to extend the trade flow analysis of AREA and PLUG models to reflect the dynamics created by an interplay between the potential for political conflict and major changes in economic circumstances. Policy makers from governments in the area were involved in the development of the scenarios evaluated. In order to keep in continual contact with these busy officials and analysts who could not be present in our locations for the duration of the project, a satellite computer teleconference was set up and used. This form is viewed as being an effective distributed (world-wide) decision support system for global model development and use.

Mr J.M. Mula and Professor Y. Kaye* (East-West Centre, Hawaii) Japan-Australia-World (JAW) modelling project
Policy decisions are made at a national level and not at an international level. The JAW modelling project brings together nation models of Japan and Australia into the holistic framework of a world model. Analysis can then be carried out as to the effects of national policy decisions on another nation's economy and on other regions' economies. In the other direction, the effects of movements in world economic activities on Australia and Japan can be analysed. Presently the link between these models is handled by the static nature of the input-output models which describe the national economies. A new approach using a mixture of canonical regression analysis and principal component analysis, which will dynamise the national models, is being developed.

Professor J.A. Rickard, Professor T.O. Howroyd*, Dr A.M. Russell* (University of Melbourne) and Dr W.J. Huxham
Models of oligopolistic competition
Members of the group have continued their research into various mathematical models of oligopolistic competition. Specific problems which have received attention include: the stability of the solution to the Cournot and related oligopoly problems; the Cournot problem with allowance for adjustment costs; Bishop's Warrego strategy; the effects on oligopoly of lump-sum information in action receipt and action implementation.

Professor J.A. Rickard, Mr K.J. Moores and Mr R.P. McNamera
Variables amortisation schedules
This project involves an evaluation of conventional loan repayment schedules with a view to highlighting certain implications which affect both borrower and lender. These implications, for risk, cash-flow patterns, cost and burden, and the debt/Equity composition at any one time, are then considered in the context of an alternative scheme by a variable amortisation schedule.

Professor J.A. Rickard, Dr A.M. Russell* and Professor T.O. Howroyd (University of Melbourne) Mathematical models of tax evasion and tax avoidance
This project generalises earlier work on tax evasion models and extends the analysis to incorporate tax avoidance, allowing for retrospective penalties, growth in income and returns from illicit gains, and incorporating the consulting and participation fees normally associated with tax avoidance schemes. The major objective of this work is to consider the impact on the level of participation in tax avoidance schemes of a perceived probability of disallowance and consequent penalty, and to analyse the policy implications associated with the results.

Professor J.A. Rickard, Dr A.M. Russell* and Dr H.G. Stanton (University of Melbourne) The structure of consumer finance in Australia
The structure of consumer finance in Australia has been examined in some detail. Particular attention is directed at the problem of identifying the "true costs" of borrowing using the various loan vehicles available. Detailed studies have included: housing and personal loans from banks, building societies and credit co-operatives; Bankcard; penalties associated with premature loan repayment; the cost and structure of "nested interest" loans.
Mr G.T. Steadman, Mr R. Daywill and Mr N. Cocks
Accounting for administrators
This project is the basis of a textbook for tertiary students. The major objectives were:
- to introduce administration to the discipline of accounting within an organisational context;
and
- to enable administrators to read and understand the financial statements of organisations.
The book will be class-tested in the first semester of 1982, and then submitted for publication later in the year.

Dr C.R. Williams
Militancy and deference amongst white collar workers
The project consists of a comparative study of technicians, flight attendants [air hostesses], secretaries, typists and bank employees. The study considers the nature of "white collar" work; its relationship to the class structure; increased militancy as a response to proletarianisation and/or accelerating automation; sex differences in white collar response; the effect of actions of the state on white collar militancy.

Ms J. Wilkinson
Strategies for determining optimal growth paths for development of small developing countries
This project studies service sectors as leading economic sectors for example tourism, financial centres by multi-criteria analysis and project evaluation as an extension of input-output analysis.

Postgraduate Students

Mr R.W. Beckman (PhD) - Management of engineering functions

Ms P.M. Hestock (MPhil) - The evaluation of a series of training programmes developed as an aid to the effective implementation and use of modern computer technology

Ms E.E. Butler (PhD) - The impact of technology on the secretarial world, and the implications of this for commercial education

Mr S.L. Cameron (PhD) - The dimensions of effectiveness of tertiary institutions in Queensland

Mr P. Churchward (PhD) - Information mapping applied to strategic decisions

Ms L.C. Enkelman (MPhil) - An analysis of the dilemmas of professionally-trained people who become managers in the Health Department

Ms E.A. Gillees (MPhil) - Organisation decision-making structure as it relates to employee participation

Mrs I.T. Griffiths (PhD) - Profiles of women in management

Mr P.J. McCarthy (PhD) - Role of science in management theory

Ms E.F. McManara (MPhil) - Management attitudes towards lifelong education

Mr J.W. Ross (MPhil) - A comparative study of the application of organisation theory and organisation development in corporations operating in Australia and Indonesia, as observed in terms of impact on managers within these corporations

Mr P.J. Sutcliffe (PhD) - Management styles

Mr W.F. Shepherd (PhD) - The role of gold in international economic management

1981 RESEARCH AWARDS

Australian-American Educational Foundation
Dr O.P. Coaldrake - Fulbright Postdoctoral Fellowship
Civil service reform in the United States: the Reagan presidency

Australian Institute of Public Administration
Dr O.P. Coaldrake - $2,000
Civil service reform in the United States

Department of Home Affairs and Environment
Mr J.M. Mula - $8,550
Australian Resources and Environments Assessment (AREA) modelling project

East-West Centre (Hawaii)
Mr J.M. Mula - $11,400 (Open grant)
Global Models and the Policy Process (G-MAPP) project

University Research Grant
Dr C.R. Williams - $2,940
A comparative study of two contrasting groups of "white collar" workers during a period of crisis engendered by technological innovation

PUBLICATIONS

Books


Chapters in Books


Journal Articles


RICKARD, J.A. - "Use a nomogram to sort out your interest rate conversions". Accountancy January: 90-92, 1981.


Papers and Proceedings


Reports and Publications


MCALLUM, J. "The effectiveness of retirement preparation programmes". Report to the Workers' Educational Association for Berkshire, Buckinghamshire and Oxfordshire (UK), April 1981.

MCALLUM, J. "Investigation of student development and economic utilities developed during an activity-based learning programme". Report to St Thomas More College, Brisbane, Queensland, 1981.


Dr R.A. Ross
Course design, particularly for interdisciplinary courses, and including external studies courses; course evaluation, and use of evaluation information in course redesign; the impact of institutional structures on academic programmes.

Dr O.D. Zuber-Skerritt
Comparative literature, applied linguistics; translation studies (especially in modern sines); learning-teaching methods; evaluation of teaching.

1981 RESEARCH AWARDS
Commonwealth Tertiary Education Committee The Evaluative Studies Steering Committee
Mr I.H. Barham - $32,000
Basilicative study of the theoretical and further Education training programmes conducted at the Mt Gravatt College of Advanced Education, the Taite Teacher Preparation Centre and Colleges of TAFE
Mr I.H. Barham - $8,000
Study of structures and processes in the Department of Liberal Studies, North Brisbane College of Advanced Education

PUBLICATIONS
Books and Monographs
ZUBER-SKERRITT, O.D. and ELSON, R.E. Student study skills. A manual for conducting SSS Workshops. Brisbane, CALT, Griffith University, 1981.

Chapters in Books

MARGETSON, D.B. "Pedagogics in South Africa: the mystification of education?" In Beard, P.N.G. and Nicholas, 1981, pp.54-62


ZUBER-SKERRITT, O.D. "The picture of Australian society as portrayed in drama". In Stilz, A., ed. Drama in the Commonwealth [Drame en la Commonwealth]. Tübingen, Gunter Narr Verlag, 1981, pp.31-44.

Journal Articles


Reports and Other Publications
BARKAM, I.H., CUNNINGHAM, D.K. and ROSS, R.A. Revised of structures and processes in the Department of Liberal Studies, WACE. Brisbane, CALT, Griffith University, 1981.

Papers and Proceedings


ZUBER-SKERRITT, O.D., "The integration of Student Study Skills Sessions into a first-year university programme". Paper presented to the Communication at University Conference, La Trobe University, Melbourne, 1991.


THE LANGUAGE CENTRE
Research in the Centre during the year included work in the following areas: the measurement of proficiency in foreign language learning; the improvement of teaching processes for foreign languages; the process of learning Japanese by adults; a comparative study of North Celebes languages; a linguistic atlas of the North Celebes languages; a linguistic atlas of the Karo Batak language of Sumatra.

RESEARCH PROJECTS AND ACTIVITIES
Staff
Ms F. Carra
Development of an Italian language syllabus
This project involves a major contribution to the development of the new functional syllabus for the teaching of Italian in Queensland secondary schools.

Ms F. Carra and Mr C. Zincone
The measurement of proficiency in foreign language learning
This is a nation-wide research project initiated by Mr D. Ingram of the Mt Gravatt College of Advanced Education. The project involves the adoption of a scale for the measurement of proficiency in foreign languages. The project developed should be adaptable to other foreign languages. Similar projects are underway for Japanese and French.
Teaching a new audio-visual course
This project involves the testing of a newly acquired audio-visual course in Italian for full-time students, with the addition of extra materials, exercises and tests.

Mrs E.J.T. Chiang
The teaching of Chinese
This project continues research into the teaching of the Chinese language with the aid of audio-visual equipment.

Miss K. Fukui
The teaching of Japanese in Australia
This project is concerned with the revision of grammar notes and exercises for first- and second-year Japanese courses, in order to simplify the notes and make them more comprehensive. An essay on this topic won an award in the essay contest sponsored by the Institute of International Understanding at Otosen University, Osaka, Japan.

Mr E. Kato
The learning of the Japanese language by adults.
This project involves the analysis of speech samples collected from Australian high school exchange students in Japan, and also examines the way in which Australian students learn Japanese in both formal and informal environments.

Training programme for students
This investigation has established a training programme at the Nagoya International College of Foreign Languages, which allows two Griffith University students to study at the College each year. Under this programme, the students spend twelve months studying the teaching of English as a foreign language to children.

Dr J. Sneddon
The comparative study of North Celebes languages.
This study is based on field work carried out in 1979 with the assistance of the Australian Research Grants Scheme (ARBS), and attempts to determine the inter-relationship of languages in North Celebes, Indonesia, and their position within the Austronesian language family.

Linguistic status of the Pasific
Research on the Sulawesi section of the Linguistic studies of the Pasific.

Dr N.R. Twine
Introduction from Japanese
The translation of Shoseian Shoko, by Futabashi Shoten, and of a book by Professor Rikuro Hida.

Mrs C. Whittington
Analysis of the diminution of nominals in Indonesian.
A continuation of the study of affixes which singly, or in combination, are used for nominalisation in Indonesian. The various usages will be categorised and specific features noted, such as the function of the base word and what effect that has on the nominalisation process.

Mr G. Woollems
Linguistic study of the Karo Basak Language of Sumatra.
This project studies the phonological and grammatical structure of an important language of Sumatra, Indonesia. Field work to collect material on the language was undertaken during the year to supplement field study previously undertaken.

PUBLICATIONS

Books/Pamphlets

STAFF STATISTICS

STAFF STATISTICS AT 30 APRIL 1981

OFFICE OF THE VICE CHANCELLOR

<table>
<thead>
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<th>Position</th>
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<td>Chief Executive Officer - the Vice-Chancellor</td>
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SCHOOLS AND ACADEMIC SERVICE ELEMENTS

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<th>School / Centre</th>
<th>Professor, Reader, University Librarian</th>
<th>Senior Lecturer</th>
<th>Senior Teaching Fellow</th>
<th>Teaching Fellow</th>
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GENERAL ELEMENTS

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<tr>
<th>Division</th>
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<th>Senior Professional, Technical &amp; Other General Staff</th>
<th>Junior Professional, Technical &amp; Other General Staff</th>
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<td>Business Management Division</td>
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<td>Site and Buildings Division</td>
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## Detachments of Faculty Staff on Outside Studies Programmes 1977-81

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**Totals:** 10 12 21 20 21

## Absences of Faculty Staff on Outside Studies Programmes - 1981

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<th>Designation</th>
<th>Number Absent</th>
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<th>Absence Spent</th>
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</table>

**Grand Total:** 21 110 2 19 20 1 1
### STUDENT STATISTICS AT 30 APRIL 1981

#### ENROLMENTS IN UNIVERSITY PROGRAMMES

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<thead>
<tr>
<th>School and Programme</th>
<th>Full-Time</th>
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<th>Part-Time</th>
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#### AGES OF ENROLLED STUDENTS - 1981

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<th>Female</th>
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<th>Female</th>
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<td>9</td>
<td>20</td>
<td>11</td>
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</table>

**TOTAL**                    | 161               | 52      | 1032                          | 983    | 1193               | 1039   | 2228  |
### STUDENT STATISTICS
Numbers of Graduates or Persons Qualified to Graduate to December 1981

<table>
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<tr>
<th>School</th>
<th>Bachelor's Degree</th>
<th>Bachelor's Degree with Honours</th>
<th>Coursework Master's Degrees</th>
<th>Research Master's and Doctor's Degree</th>
<th>Total Graduates</th>
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### ENROLLED STUDENTS 1975-81
As at 30 April Each Year

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<td>234</td>
<td>336</td>
<td>440</td>
<td>454</td>
<td>554</td>
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<td>334</td>
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<td>1</td>
<td>-</td>
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<td>835</td>
<td>1,197</td>
<td>1,610</td>
<td>1,617</td>
<td>1,900</td>
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## FINANCIAL STATEMENTS
### SUMMARY - ALL FUNDS - 1981

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<tbody>
<tr>
<td>General Fund</td>
<td>135,555</td>
<td>43,076</td>
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<tr>
<td>Capital Fund</td>
<td>908,077</td>
<td>Dr 586,256</td>
<td></td>
</tr>
<tr>
<td>Other Funds</td>
<td>842,302</td>
<td>1,026,244</td>
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<tr>
<td><strong>Suspense</strong></td>
<td>85,400</td>
<td>1,971,334</td>
<td>543,536</td>
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### RECEIPTS -

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<tr>
<td>General Fund</td>
<td>10,852,418</td>
<td>12,596,711</td>
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<tr>
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<td>1,853,525</td>
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<tr>
<td><strong>Suspense (Excess of Receipts over Payments)</strong></td>
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### PAYMENTS -

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<td><strong>Suspense (Excess of Payments over Receipts)</strong></td>
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### BALANCES - 31ST DECEMBER -

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<td>22,435</td>
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<td>Other Funds</td>
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<td>1,380,410</td>
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<tr>
<td><strong>Suspense</strong></td>
<td>60,472</td>
<td>543,536</td>
<td>3,229,867</td>
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</table>

Balance held as follows:-

- **Investments**: $5,950,000
- **Bank Accounts**: $(701,336)

**Total**: $5,248,664

At 31st December 1981 the indebtedness of the University in respect of loan raisings for the Housing Village was $2,988,052.52. Full details of outstanding loans follow.

## STATEMENT OF RECEIPTS AND PAYMENTS FOR THE YEAR ENDED 31ST DECEMBER, 1981

### GENERAL FUND

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</tbody>
</table>

**Receipts for the Year Comprised:**

- Endowment - Australian Government $12,546,000
- Other $162,655

**Total Receipts** $12,708,655

**Payments Were Made on Account of:**

- **Academic Activities**
  - Teaching and Research (Note 1) $6,992,396
  - Research Only (Note 2) $496,460

- **Academic Services**
  - Libraries (Note 3) $1,249,079
  - Other (Note 4) $746,377

- **Student Services** (Note 5) $233,476

- **General University Services**
  - Administration (Note 6) $1,387,406
  - Overheads (Note 7) $742,990
  - Buildings and Grounds (Note 8) $1,220,078

**Total Payments** $12,662,222

**Resulting in an Excess of Payments over Receipts of** $55,511

**Leaving an Overdrawn Balance at 31st December of** $22,435

**Leaving a Balance at 31st December of** $5,248,664

The following notes form part of and are to be read in conjunction with this Financial Statement.
### NOTES TO AND FORMING PART OF THE STATEMENT OF RECEIPTS AND PAYMENTS - GENERAL FUND

#### NOTE 1 - Academic Activities - Teaching and Research

<table>
<thead>
<tr>
<th>Item</th>
<th>1980</th>
<th>1981</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries</td>
<td>4,656,545</td>
<td>5,518,051</td>
</tr>
<tr>
<td>Superannuation and Pensions</td>
<td>432,389</td>
<td>522,249</td>
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<tr>
<td>Payroll Tax and Workers' Compensation insurance</td>
<td>250,929</td>
<td>295,904</td>
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<tr>
<td>Maintenance</td>
<td>293,728</td>
<td>327,623</td>
</tr>
<tr>
<td>Computing</td>
<td>11,218</td>
<td>15,785</td>
</tr>
<tr>
<td>Equipment</td>
<td>115,036</td>
<td>120,000</td>
</tr>
<tr>
<td>Conference and study leave grants</td>
<td>129,974</td>
<td>132,529</td>
</tr>
<tr>
<td>New appointment expenses</td>
<td>55,607</td>
<td>48,275</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$5,945,186</strong></td>
<td><strong>$6,992,396</strong></td>
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</table>

#### NOTE 2 - Academic Activities - Research Only

<table>
<thead>
<tr>
<th>Item</th>
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<th>1981</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries</td>
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<td>112,300</td>
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<tr>
<td>Payroll Tax and Workers' Compensation insurance</td>
<td>6,287</td>
<td>5,500</td>
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<tr>
<td>Maintenance</td>
<td>96,060</td>
<td>102,840</td>
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<tr>
<td>Computing</td>
<td>17,784</td>
<td>22,792</td>
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<tr>
<td>Equipment</td>
<td>24,542</td>
<td>26,183</td>
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<tr>
<td>Conference and study leave grants</td>
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<td>21,795</td>
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<tr>
<td>New appointment expenses</td>
<td>588</td>
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</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$258,061</strong></td>
<td><strong>$340,460</strong></td>
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#### NOTE 3 - Academic Services - Libraries

<table>
<thead>
<tr>
<th>Item</th>
<th>1980</th>
<th>1981</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries</td>
<td>622,474</td>
<td>715,148</td>
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<tr>
<td>Superannuation and Pensions</td>
<td>57,624</td>
<td>69,125</td>
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<tr>
<td>Payroll Tax and Workers' Compensation insurance</td>
<td>33,900</td>
<td>38,229</td>
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<tr>
<td>Purchase of books etc.</td>
<td>330,969</td>
<td>340,450</td>
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<tr>
<td>Maintenance</td>
<td>74,673</td>
<td>78,671</td>
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<tr>
<td>Computing</td>
<td>2,820</td>
<td>8,198</td>
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<tr>
<td>Travel</td>
<td>2,319</td>
<td>3,215</td>
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<tr>
<td>New appointment expenses</td>
<td>33</td>
<td></td>
</tr>
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<td><strong>Subtotal</strong></td>
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<td><strong>$1,249,079</strong></td>
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</table>

#### NOTE 4 - Academic Services - Other

<table>
<thead>
<tr>
<th>Item</th>
<th>1980</th>
<th>1981</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries</td>
<td>332,497</td>
<td>391,964</td>
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<tr>
<td>Superannuation and Pensions</td>
<td>33,051</td>
<td>37,727</td>
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<tr>
<td>Payroll Tax and Workers' Compensation insurance</td>
<td>18,213</td>
<td>21,312</td>
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<tr>
<td>Maintenance</td>
<td>27,100</td>
<td>28,137</td>
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<tr>
<td>Travel</td>
<td>11,813</td>
<td>8,866</td>
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<tr>
<td>New appointment expenses</td>
<td>1,126</td>
<td>4,133</td>
</tr>
<tr>
<td>Research</td>
<td>3,215</td>
<td>4,228</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$427,719</strong></td>
<td><strong>$505,357</strong></td>
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</tbody>
</table>

#### NOTE 5 - Student Services

<table>
<thead>
<tr>
<th>Item</th>
<th>1980</th>
<th>1981</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>22,673</td>
<td>25,523</td>
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<tr>
<td>Counselling</td>
<td>9,673</td>
<td>12,404</td>
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<tr>
<td>Scholarships</td>
<td>117,892</td>
<td>152,122</td>
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<tr>
<td>Employment Services</td>
<td>40,077</td>
<td>41,430</td>
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<tr>
<td>Loans Scheme</td>
<td>5,000</td>
<td>2,000</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$192,315</strong></td>
<td><strong>$233,476</strong></td>
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</table>

#### NOTE 6 - General University Services - Administration

<table>
<thead>
<tr>
<th>Item</th>
<th>1980</th>
<th>1981</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries</td>
<td>846,401</td>
<td>1,028,996</td>
</tr>
<tr>
<td>Superannuation and Pensions</td>
<td>71,469</td>
<td>86,925</td>
</tr>
<tr>
<td>Payroll Tax and Workers' Compensation insurance</td>
<td>40,150</td>
<td>55,177</td>
</tr>
<tr>
<td>Maintenance</td>
<td>63,133</td>
<td>92,943</td>
</tr>
<tr>
<td>Computing</td>
<td>108,326</td>
<td>104,606</td>
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<tr>
<td>Travel</td>
<td>26,056</td>
<td>14,882</td>
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<tr>
<td>New appointment expenses</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Staff development</td>
<td>4,362</td>
<td>3,926</td>
</tr>
<tr>
<td>Official Visitors</td>
<td>549</td>
<td>7,581</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$1,164,812</strong></td>
<td><strong>$1,437,406</strong></td>
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</table>
NOTE 7 - General University Services - Overheads

<table>
<thead>
<tr>
<th>Item</th>
<th>1980</th>
<th>1981</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postage and telephone</td>
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<td></td>
</tr>
<tr>
<td>Advertising</td>
<td>22,502</td>
<td>33,505</td>
</tr>
<tr>
<td>Insurance</td>
<td>54,034</td>
<td>68,717</td>
</tr>
<tr>
<td>Contributions and subscriptions to other organisations</td>
<td>33,760</td>
<td>40,751</td>
</tr>
<tr>
<td>Convocation and Council elections</td>
<td>589</td>
<td>1,505</td>
</tr>
<tr>
<td>Furniture</td>
<td>14,253</td>
<td>15,826</td>
</tr>
<tr>
<td>Power, lighting and heating</td>
<td>223,247</td>
<td>246,225</td>
</tr>
<tr>
<td>Printing and stationary</td>
<td>27,665</td>
<td>37,195</td>
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<tr>
<td>Rentals of premises</td>
<td></td>
<td>934</td>
</tr>
<tr>
<td>Audit and accounting fees</td>
<td>3,920</td>
<td>5,200</td>
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<tr>
<td>Legal expenses</td>
<td>27,684</td>
<td>2,642</td>
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<tr>
<td>Community relations and official visitors expenses</td>
<td>33,729</td>
<td>27,304</td>
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<tr>
<td>Expenses of Council</td>
<td>3,756</td>
<td>3,760</td>
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<tr>
<td>Purchase of regalia</td>
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<td></td>
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<tr>
<td>Transport subsidy</td>
<td>3,880</td>
<td>1,812</td>
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<tr>
<td>Board of Community Services subsidy</td>
<td>59,642</td>
<td>60,000</td>
</tr>
<tr>
<td>Superannuation Review</td>
<td>3,876</td>
<td>4,600</td>
</tr>
<tr>
<td>Works of Art maintenance</td>
<td>4,000</td>
<td>5,063</td>
</tr>
<tr>
<td>Works of Art acquisition</td>
<td>10,000</td>
<td></td>
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<tr>
<td>Housing Village debt servicing contribution</td>
<td>30,000</td>
<td>35,000</td>
</tr>
<tr>
<td>Queensland Film and Drama Centre contribution</td>
<td>20,400</td>
<td>22,500</td>
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<tr>
<td>Administrative technology consultants</td>
<td>6,522</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>856,223</td>
<td>975,427</td>
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</table>

$723,107  $742,950

NOTE 8 - General University Services - Buildings and Grounds

<table>
<thead>
<tr>
<th>Item</th>
<th>1980</th>
<th>1981</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries</td>
<td>566,656</td>
<td>651,828</td>
</tr>
<tr>
<td>Superannuation and Pensions</td>
<td>42,177</td>
<td>50,117</td>
</tr>
<tr>
<td>Payroll, Tax and Workers' Compensation Insurance</td>
<td>30,579</td>
<td>37,824</td>
</tr>
<tr>
<td>Materials, equipment and contracts - Planning and maintenance</td>
<td>318,895</td>
<td>309,685</td>
</tr>
<tr>
<td>- Cleaning and caretaking</td>
<td>110,390</td>
<td>131,593</td>
</tr>
<tr>
<td>Water and general rates</td>
<td>37,802</td>
<td>37,002</td>
</tr>
<tr>
<td>New appointment expenses</td>
<td>- 24</td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td>2,706</td>
<td>2,665</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,109,205</td>
<td>1,220,078</td>
</tr>
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STATEMENT OF RECEIPTS AND PAYMENTS FOR THE YEAR ENDED 31ST DECEMBER, 1981

CAPITAL FUND

<table>
<thead>
<tr>
<th>Balance 31.12.81</th>
<th>Receipts</th>
<th>Payments</th>
<th>Balance 31.12.81</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Buildings and Equipment</td>
<td>567</td>
<td>829,446</td>
<td>591,427</td>
</tr>
<tr>
<td>Capital Grants - Commonwealth Government</td>
<td>1,051,000</td>
<td>-</td>
<td>1,051,000</td>
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<tr>
<td>State Treasury Advances - Academic Building 5</td>
<td>300,000</td>
<td>-</td>
<td>300,000</td>
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<tr>
<td>Capital Projects Interest Contribution</td>
<td>38,834</td>
<td>-</td>
<td>38,834</td>
</tr>
<tr>
<td>- Central Theatres</td>
<td>282</td>
<td>-</td>
<td>282</td>
</tr>
<tr>
<td>Charges for Equipment Use</td>
<td>72</td>
<td>-</td>
<td>72</td>
</tr>
<tr>
<td>Housing Village</td>
<td>Dr 587,223</td>
<td>27,502</td>
<td>69,395</td>
</tr>
<tr>
<td>Capital Grants - Commonwealth Government</td>
<td>- 27,060</td>
<td>27,060</td>
<td>27,060</td>
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<tr>
<td>Capital Grants - Queensland Government</td>
<td>- 27,060</td>
<td>27,060</td>
<td>27,060</td>
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<tr>
<td>Loan Reissues</td>
<td>550,000</td>
<td>-</td>
<td>550,000</td>
</tr>
<tr>
<td>Commonwealth Games Foundation Contribution</td>
<td>10,000</td>
<td>-</td>
<td>10,000</td>
</tr>
<tr>
<td>University Fund Contribution</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Dr 586,256</td>
<td>$2,104,026</td>
<td>$1,856,948</td>
<td>$560,822</td>
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</table>

OTHER FUNDS

<table>
<thead>
<tr>
<th>Balance 31.12.81</th>
<th>Receipts</th>
<th>Payments</th>
<th>Balance 31.12.81</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Research Funds - Australia China Council</td>
<td>1,148</td>
<td>-</td>
<td>199</td>
</tr>
<tr>
<td>Australia Japan Foundation</td>
<td>-</td>
<td>10,000</td>
<td>491</td>
</tr>
<tr>
<td>Australian Associated Brewers</td>
<td>-</td>
<td>15,000</td>
<td>15,009</td>
</tr>
<tr>
<td>Australian Atomic Energy Commission</td>
<td>297</td>
<td>-</td>
<td>297</td>
</tr>
<tr>
<td>Australian Institute of Nuclear Science and Engineering</td>
<td>360</td>
<td>422</td>
<td>-</td>
</tr>
<tr>
<td>Australian Meat Research Committee</td>
<td>Dr 224</td>
<td>4,920</td>
<td>Dr 2,221</td>
</tr>
<tr>
<td>Australian National Parks &amp; Wildlife Service</td>
<td>-</td>
<td>23,000</td>
<td>2,717</td>
</tr>
<tr>
<td>SUB-TOTAL - Specific Research Funds</td>
<td>1,243</td>
<td>51,283</td>
<td>42,074</td>
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</table>
### SUB TOTAL - Specific Research Funds

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<tr>
<th>Organization</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Australian Research Grants Committee</td>
<td>$1,243</td>
</tr>
<tr>
<td>Australian Water Resources Council</td>
<td>$503</td>
</tr>
<tr>
<td>Australian Wool Corporation</td>
<td>-</td>
</tr>
<tr>
<td>Bureau of Northern Lands Council</td>
<td>-</td>
</tr>
<tr>
<td>Cancer Awareness Group</td>
<td>-</td>
</tr>
<tr>
<td>E.H.T. Chiang</td>
<td>-</td>
</tr>
<tr>
<td>Condamine River Basin Irrigators Association</td>
<td>-</td>
</tr>
<tr>
<td>C.S.I.R.O.</td>
<td>-</td>
</tr>
<tr>
<td>Currumbin Estuary Association</td>
<td>-</td>
</tr>
<tr>
<td>Dept. of Health</td>
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<tr>
<td>Dept. of Primary Industries</td>
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<tr>
<td>Dept. of Science and Technology</td>
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<td>Dept. of Transport</td>
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<tr>
<td>Federation of Australian University Staff Associations</td>
<td>-</td>
</tr>
<tr>
<td>Great Barrier Reef Marine Park Authority</td>
<td>-</td>
</tr>
<tr>
<td>Gutteridge, Haskins &amp; Davy Beerburrum Study</td>
<td>-</td>
</tr>
<tr>
<td>Japan Foundation</td>
<td>-</td>
</tr>
<tr>
<td>Main Roads Dept.</td>
<td>-</td>
</tr>
<tr>
<td>National Energy Research Development and Demonstration Council</td>
<td>-</td>
</tr>
<tr>
<td>National Health and Medical Research Council</td>
<td>-</td>
</tr>
<tr>
<td>National Heart Foundation</td>
<td>-</td>
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<tr>
<td>Pacific Seeds</td>
<td>-</td>
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<tr>
<td>Ian Potter Foundation</td>
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</tr>
<tr>
<td>Radio Research Board</td>
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<tr>
<td>Rainbird Publishing</td>
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<td>Rural Credits Development Fund</td>
<td>-</td>
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<tr>
<td>Schering Corporation</td>
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<tr>
<td>Science Special Funds - Share of Equipment Charges</td>
<td>-</td>
</tr>
<tr>
<td>Tate &amp; Lyle</td>
<td>-</td>
</tr>
<tr>
<td>Tertiary Education Commission</td>
<td>-</td>
</tr>
<tr>
<td>Utah Foundation</td>
<td>-</td>
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<tr>
<td>Wheat Industry Research Council</td>
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<tr>
<td><strong>TOTAL - SPECIFIC RESEARCH FUNDS</strong></td>
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</table>

### Other Special Funds

<table>
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<tr>
<th>Organization</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.I.N.S.E. Post Graduate Scholarships</td>
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</tr>
<tr>
<td>Australia China Council - M.A.S.</td>
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</tr>
<tr>
<td>Australia Council - Writer in Residence</td>
<td>161</td>
</tr>
<tr>
<td>C.A.L.T. Publications</td>
<td>680</td>
</tr>
<tr>
<td>Capital Funds Interest</td>
<td>117,901</td>
</tr>
<tr>
<td>China Trip</td>
<td>158</td>
</tr>
<tr>
<td>Conference Co-ordinating</td>
<td>-</td>
</tr>
<tr>
<td>Consulting Fees - A.E.S.</td>
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</tr>
<tr>
<td>Continuing Education Funds</td>
<td>9,842</td>
</tr>
<tr>
<td>C.S.A.A.R. Publications</td>
<td>261</td>
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<tr>
<td>Curriculum Development Centre Grant - M.A.S.</td>
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</tr>
<tr>
<td>GCMHE Contributions</td>
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</tr>
<tr>
<td>Gippsland Institute of Advanced Education</td>
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</tr>
<tr>
<td>Griffith Asian Papers Publications</td>
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<tr>
<td>Hancock Bros. Pty. Ltd. Fund</td>
<td>51,397</td>
</tr>
<tr>
<td>Interpreter Service Australia China Council</td>
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</tr>
<tr>
<td>Library Special Purpose Fund</td>
<td>41,259</td>
</tr>
<tr>
<td>Language Centre Courses for External Agencies</td>
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</tr>
<tr>
<td>M.A.S. Public Lectures</td>
<td>8</td>
</tr>
<tr>
<td>M.N.R. Centre Operations</td>
<td>2,923</td>
</tr>
<tr>
<td>M.I.M. Hospital - Student Counselling</td>
<td>18</td>
</tr>
<tr>
<td>M.I.M. Holdings - Donations - Burgman</td>
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</tr>
<tr>
<td>Ian Potter Foundation</td>
<td>533</td>
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<tr>
<td>Queensland Film and Drama Centre</td>
<td>7,547</td>
</tr>
<tr>
<td>Science Equipment Charges</td>
<td>-</td>
</tr>
<tr>
<td>S.G.I.O. Lecture Donation - Science</td>
<td>14</td>
</tr>
<tr>
<td>Sir Samuel Griffith Biogrophy Donations</td>
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</tr>
<tr>
<td>S.I.A. Workshops</td>
<td>764</td>
</tr>
<tr>
<td>Staff Disability Fund</td>
<td>3,492</td>
</tr>
<tr>
<td>Student Exchanges - M.A.S.</td>
<td>5,999</td>
</tr>
<tr>
<td>Student Loan Fund</td>
<td>17,103</td>
</tr>
<tr>
<td>T.A.F.E. Evaluation Study</td>
<td>2,783</td>
</tr>
<tr>
<td>Thriss Bros. Donation - M.A.S.</td>
<td>854</td>
</tr>
<tr>
<td>University Publications</td>
<td>3,881</td>
</tr>
<tr>
<td>UPL Group Ltd. Donation - Burgman</td>
<td>-</td>
</tr>
<tr>
<td>University Fund</td>
<td>717,260</td>
</tr>
<tr>
<td>Vice-Chancellor's Concert Fund</td>
<td>395</td>
</tr>
<tr>
<td>Works of Art Fund</td>
<td>13,401</td>
</tr>
<tr>
<td><strong>TOTAL - OTHER SPECIAL FUNDS</strong></td>
<td>$1,002,294</td>
</tr>
</tbody>
</table>

### DEPOSIT FUND

<table>
<thead>
<tr>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2,041</td>
</tr>
</tbody>
</table>

### TOTAL - OTHER FUNDS

<table>
<thead>
<tr>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,026,244</td>
</tr>
</tbody>
</table>
STATEMENT OF EXPENDITURE FROM CAPITAL FUND FOR YEAR ENDED 31ST DECEMBER, 1981

Building Projects

<table>
<thead>
<tr>
<th>Year</th>
<th>Projects</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>Science - Stage 2</td>
<td>23,677</td>
</tr>
<tr>
<td>1979</td>
<td>Central Theatres</td>
<td>66,687</td>
</tr>
<tr>
<td></td>
<td>Housing Village</td>
<td>77,502</td>
</tr>
<tr>
<td>1980</td>
<td>Minor Works &amp; Site Works &amp; Services</td>
<td>3,226</td>
</tr>
<tr>
<td>1981</td>
<td>Village Centre</td>
<td>178,926</td>
</tr>
<tr>
<td></td>
<td>School Building</td>
<td>88,541</td>
</tr>
<tr>
<td></td>
<td>Minor Works &amp; Site Works &amp; Services</td>
<td>96,826</td>
</tr>
<tr>
<td>1982</td>
<td>Minor Works &amp; Site Works &amp; Services</td>
<td>255</td>
</tr>
<tr>
<td></td>
<td>Total Projects</td>
<td>369,198</td>
</tr>
</tbody>
</table>

Equipment

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Capital Payments</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>369,198</td>
</tr>
</tbody>
</table>

PARTICULARS OF LOAN INDEBTEDNESS GRIFFITH UNIVERSITY AS AT 31.12.81

<table>
<thead>
<tr>
<th>Loan No.</th>
<th>Lenders</th>
<th>Amount of Loan</th>
<th>Rate of Interest</th>
<th>Annual Instalments Including Sinking Fund</th>
<th>Indebtedness at 31 December 1981</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N.B.A.</td>
<td>400,000</td>
<td>9.3</td>
<td>39,803.56</td>
<td>392,856.97</td>
</tr>
<tr>
<td>2</td>
<td>A.M.P.</td>
<td>500,000</td>
<td>9.3</td>
<td>50,267.96</td>
<td>502,267.96</td>
</tr>
<tr>
<td>3</td>
<td>A.M.P.</td>
<td>100,000</td>
<td>9.3</td>
<td>11,253.60</td>
<td>111,253.60</td>
</tr>
<tr>
<td>4</td>
<td>A.M.P.</td>
<td>400,000</td>
<td>9.3</td>
<td>40,014.28</td>
<td>404,014.28</td>
</tr>
<tr>
<td>5</td>
<td>N.B.A.</td>
<td>300,000</td>
<td>10.8</td>
<td>33,842.18</td>
<td>333,842.18</td>
</tr>
<tr>
<td>6</td>
<td>S.G.I.O.</td>
<td>250,000</td>
<td>10.8</td>
<td>28,201.82</td>
<td>282,201.82</td>
</tr>
<tr>
<td>7</td>
<td>S.G.I.O.</td>
<td>150,000</td>
<td>10.8</td>
<td>16,921.10</td>
<td>166,921.10</td>
</tr>
<tr>
<td>8</td>
<td>S.G.I.O.</td>
<td>100,000</td>
<td>12.6</td>
<td>12,930.86</td>
<td>122,930.86</td>
</tr>
<tr>
<td>9</td>
<td>S.G.I.O.</td>
<td>250,000</td>
<td>12.6</td>
<td>32,327.12</td>
<td>322,327.12</td>
</tr>
<tr>
<td>10</td>
<td>N.B.A.</td>
<td>300,000</td>
<td>12.6</td>
<td>32,671.80</td>
<td>322,671.80</td>
</tr>
<tr>
<td>11</td>
<td>N.B.A.</td>
<td>50,000</td>
<td>13.9</td>
<td>7,075.58</td>
<td>77,075.58</td>
</tr>
<tr>
<td>12</td>
<td>S.G.I.O.</td>
<td>80,000</td>
<td>13.9</td>
<td>11,320.92</td>
<td>111,320.92</td>
</tr>
<tr>
<td>13</td>
<td>C.S.B.</td>
<td>140,000</td>
<td>13.9</td>
<td>22,450.96</td>
<td>162,450.96</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$3,050,000</td>
<td></td>
<td>$360,081.84</td>
<td>$2,988,919</td>
</tr>
</tbody>
</table>

SUMMARY OF EXPENDITURE TO 31ST DECEMBER, 1981

RECURRENT EXPENDITURE

<table>
<thead>
<tr>
<th>Year</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expenditure to 31st December, 1980</td>
<td>45,480,420</td>
</tr>
<tr>
<td>Expenditure 1981</td>
<td>12,662,232</td>
</tr>
<tr>
<td>Expenditure to 31st December, 1981</td>
<td>58,112,652</td>
</tr>
</tbody>
</table>

CAPITAL EXPENDITURE

<table>
<thead>
<tr>
<th>Description</th>
<th>Land</th>
<th>Consultancies, etc.</th>
<th>Site Works</th>
<th>Buildings</th>
<th>Equipment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning, Site Surveys, Investigations, etc.</td>
<td>682,039</td>
<td>159,351</td>
<td>1,820,093</td>
<td>23,895,221</td>
<td>1,751,356</td>
<td>29,308,060</td>
</tr>
<tr>
<td>Expenditure to 31st December, 1980</td>
<td>682,039</td>
<td>159,351</td>
<td>1,820,093</td>
<td>23,895,221</td>
<td>1,751,356</td>
<td>29,308,060</td>
</tr>
<tr>
<td>Expenditure 1981</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>423,898</td>
<td>369,198</td>
<td>856,948</td>
</tr>
<tr>
<td>Expenditure to 31st December, 1981</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>423,898</td>
<td>369,198</td>
<td>856,948</td>
</tr>
</tbody>
</table>
I certify that, in my opinion, the foregoing statements of receipts and payments fairly set out the transactions for the period 1st January 1981 to 31st December 1981 and the fund balances as at 31st December, 1981 on a basis consistent with that applied in respect of the financial year last preceding.

K. See
BUSINESS MANAGER

I have examined the accounts of the Griffith University and I have obtained all the information and explanations that I have required. The foregoing statements of receipts and payments are in agreement with those accounts and in my opinion have been properly drawn up so as to present a true and fair view of transactions for the period 1st January 1981 to 31st December 1981 and of the fund balances as at 31st December 1981 on a basis consistent with that applied in respect of the financial year last preceding.

19 August 1982

P.N. Craven
AUDITOR GENERAL OF QUEENSLAND