

THE GAZETTE

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QUARTER CENTURY

Construction of the autonomous University began in 1964. It has fused attractively with the eucalyptus bush on its 96-hectare site at Shortland.

Photo: Newcastle Morning Herald

During 1977 the University of Newcastle celebrated 25 years of University education in Newcastle with a programme of special events, the highlights of which were Quarter Century Reunion Dinners on August 20 and an Open Day on September 11.

The programme began with the premiere performances of Nigel Butterley's fanfare and processionals at the conferring of degrees ceremonies in April.

The anniversary was a meaningful occasion for the University as so much

has happened in the course of 25 years.

It was a period of establishment and growth at Tighe's Hill, transference to Shortland and major development on its own site.

When Newcastle University College was established on December 3, 1951, students were enrolled as undergraduates of the New South Wales University of Technology. The college provided courses in science and engineering.

In 1954 it became possible for Newcastle students to get an Arts degree at the College. The University of Technology remained the parent institution, but examinations were supervised, and degrees were awarded, by the University of New England.

In 1957 the first degrees in Arts were awarded, in 1958 the University of Technology changed its name to the University of New South Wales, and in 1962 the Council of Newcastle University College was established.



Beginning with this issue, *The Gazette* will present pictorial documentation of the changing University landscape, which is regarded as a "must" for visitors to Newcastle to see. The campus is the place of work for students and members of staff, but many Hunter Valley residents also come to attend concerts, plays, lectures or simply to enjoy the setting. We hope that graduates of the University who have moved out of the district will be interested in the pictures of the developing University. Above: The Courtyard near the Auchmuty Library reflects the attention given to landscaping. Students can read, talk and relax in this protected spot.

The University which commenced as a College in 1951 has increased its academic and teaching staff from 17 to 340; its student body from 419 to 4,600.

Newcastle Technical College and Newcastle University College still shared the same site at Tighe's Hill, but the Newcastle University Establishment Group and a later organisation, the Lord Mayor's Committee for the Establishment of an Autonomous University of Newcastle were working for the development of an independent institution on 96 hectares at Shortland.

This proposal was accepted by the Government of N.S.W. in the early 60's and the University of Newcastle Act was assented to in 1964, when work started on the construction of the first stage of the University.

Since the University of Newcastle was established in 1965 the bushland site at Shortland has been developed to accommodate steadily increasing enrolments of students.

The University saw the Arts/Administration building completed in 1965, Geology, Physics and the Union in 1966 (when the appeal for funds to build the Great Hall was launched), the Library Stage 1 in 1967, Chemistry and Metallurgy in 1969, Engineering Stage 1 and Architecture in 1970, Edwards Hall and the Social Sciences Building in 1972, the Great Hall and the Arts/Drama Theatre in 1973, Mathematics, Biological Sciences and the Sports Centre in 1974, Behavioural Sciences in 1976 and the Child Care Centre in 1977.

There is a wide choice of undergraduate and postgraduate degree courses available at the University and one demand made as early as 1957 was satisfied this year when the first students in the Faculty of Medicine were enrolled.

THE CHANCELLOR

During 1977 ill-health forced the University's Foundation Chancellor, Sir Alister McMullin, K.C.M.G., Hon. D. Litt., to retire as chancellor and as a member of the Council. The Council elected to the thus vacant office of Chancellor Sir Bede Callaghan, C.B.E., Hon. D. Sc., who had been associated with Sir Alister in guiding the University in its formative years, initially as a member of the Council and since 1973 as Deputy Chancellor.

Sir Alister McMullin

At its meeting in March, 1977, the Council incorporated in its records the following statement of appreciation of the work of Sir Alister McMullin.

'On 8th March, 1977 the Chancellor of the University of Newcastle wrote to say that, with the greatest regret, he had found it necessary to resign. Although he had been in poor health for some time, it was his hope that he would have been able to take his place with the University Council again — but this was not to be. The Council accepted his resignation with deep regret.

Sir Alister was appointed to the Council of the University by the Governor and elected first Chancellor by the Council in 1966, the year in which we moved to our new site at Shortland. Since then he has been continuously re-elected Chancellor.

In Sir Alister the University obtained a Chancellor from the Hunter Valley with national and international standing. Born in 1900 he is a grazier from St. Aubins, Scone. During World War II he served in the R.A.A.F. in northern Australia.

After an active career in local government he entered the Senate as a Senator for New South Wales in 1951 and was elected Senate President in 1953. He served a record term of 18 years as President of the Senate. Over these years Sir Alister devoted much time to parliamentary matters.

He was closely associated with the planning and development of the National Library of Australia, holding office as Chairman of the Australian Advisory Council on



Sir Alister, as painted by Graeme Inson in 1972.

Bibliographical Services, Chairman of the Commonwealth Parliamentary Library Committee and Deputy Chairman of the Council of the National Library of Australia.

He was also involved in the preparation of plans for a new Parliament House in Canberra as Chairman of a special Parliamentary Joint Select Committee.

Sir Alister was a representative for the Parliament, and an emissary for Australia, at many conferences, anniversaries, independence ceremonies and openings of parliaments overseas from 1955 to 1966. He held office on the General Council of the Commonwealth Parliamentary Association and was chairman in 1959 and 1960.

Events which caused him to travel to represent the Australian Government included the funeral of President Kennedy in Washington in 1963 and the presentation of the President's Chair to the Malaysian Senate in 1965. In 1957 the Queen conferred upon him the honour of K.C.M.G. As Chancellor of the University of Newcastle he showed a great personal interest in the work and development of the University. Admitted to an Honorary Degree of Doctor of Letters in 1966, he has officiated at the openings of new buildings and conferring of degree ceremonies, including those for the conferring of honorary degrees. He has been of great assistance to the Vice-Chancellor and members of the Senior Administrative staff.

Over his ten years as Chancellor he has never missed an annual conferring of degrees ceremony and has awarded more than 4,500 degrees to new graduates. He presided over meetings of the University Council until last year when poor health first prevented him from attending. His firm but invariably courteous chairmanship will long be remembered by those who had the privilege of being on Council with him and particularly by student members whom he encouraged with a sympathetic understanding to play a full and important role. The Council of the University records its gratitude to Sir Alister McMullin for his long and distinguished service to the University as its Foundation Chancellor. It also expresses its gratitude to Lady McMullin for her interest in the University and for her ready support of the Chancellor in his attendance at University functions. Council conveys its good wishes to Sir Alister and Lady McMullin and expresses the hope that as occasion permits they will maintain their interest in and association with the University of Newcastle."

The Senate, the University's senior academic body, noted Sir Alister's resignation with regret and recorded its gratitude to Sir Alister for his distinguished service to and leadership of the University during its first decade of growth and expressed its deep appreciation of his sympathetic interest in the hopes and ambitions of the Senate for the academic development of the University.

In recognition of Sir Alister's outstanding contribution to the development of the University in its formative years, Convocation dedicated to him the Fanfare and Processional Music it had commissioned to mark the first quarter century of the provision of university level education in the Hunter Valley. This work, written by noted Australian composer Nigel Butterley was performed for the first time at the 1977 graduation ceremonies.

Sir Bede Callaghan

The new Chancellor's links with both the University and Newcastle are long-standing.

When the first full Council of the University was formed in 1966, Sir Bede took his place on it as one of the six members appointed by the Governor. At the first meeting he was elected to its Finance and Personnel Committee, an important Committee he has served on continuously since then. In 1973 Sir Bede was elected to the office of Deputy Chancellor, succeeding the late George Edwards.

While his links with the University go back to the early days of autonomy, the Chancellor's links with the area span a century to the 1860's when one of his grandfathers came to the Lake Macquarie area as manager of Speers' Estate which gave Speers Point its name. One of his other grandfath-

ers was the Headmaster of Hamilton Superior Public School at the turn of the century. He was born in Newcastle and educated at Newcastle High School.

Sir Bede's distinguished career in banking which culminated in his appointment in 1965 as Managing Director of the Commonwealth Banking Corporation, a post he held until his retirement in 1976, commenced with his appointment as a clerk in the Commonwealth Bank in Newcastle. In the intervening years he held various appointments in the Commonwealth Bank in Australia and England and was in the United States representing Australia as Executive Director of the International Monetary Fund, the World Bank and the International Finance Corporation from 1954 to 1959. Upon formation of the Common-



The Chancellor, Sir Bede Callaghan.

wealth Development Bank of Australia in 1959 he returned to Australia to become its first General Manager. From its formation in 1970 until 1976 he was Chairman of the Australian European Finance Corporation Limited.

Despite the considerable demands of these positions, Sir Bede has devoted, and continues to devote, considerable time to honorary posts on public, national, educational, research and charitable organisations. These

have included — Chairman of the Advisory Board of Lewisham Hospital, President of the Banker's Institute of Australasia, Chairman of the Australian Administrative Staff College. Since 1976 he has been Chairman of the Foreign Investment Review Board and of a Committee which advises the Reserve Bank on aspects of overseas borrowings. He recently conducted an enquiry for the Commonwealth Government into the structure of industry and employment in Tasmania.

Sir Bede's services and achievements have been widely recognised. In 1968 he was created a Commander of the Most Excellent Order of the British Empire and in 1976 a Knight. The University conferred upon him the Honorary Degree of Doctor of Science in the Faculty of Economics and Commerce in 1973 and in 1974 he received the John Storey Medal awarded by the Australian Institute of Management.

The Council of the University of Newcastle, 1977



From left, standing: Dr. K. H. White, Mr. Justice M. Kirby, The Hon. R. W. Manyweathers M.L.C., Mr. A. Oliver, Mr. M. E. Edmonds, Mr. L. Gibbs, Dr. M. P. A. Kirton, Mr. B. W. Relj, Mr. J. K. Ellis, Mr. W. Schultz, Dr. D. C. Finlay. From left, seated: Professor C. D. Ellyett, Mr. S. Date, Mr. W. G. Derkenne, Professor R. G. Keats, Dr. F. O. J. Purdue (Deputy Chancellor), Sir Bede Callaghan (Chancellor), Professor D. W. George (Vice-Chancellor), Mr. P. D. Alexander (Secretary), Mrs. J. Taylor (Minute Secretary), Mr. C. B. Belcher, Mr. E. J. Buckman.

Absent: The Hon. K. G. Booth M.L.A., Mr. C. M. Willoughby, Mr. S. B. Jones M.L.A. and Mr. A. Forsythe.

Small Business — Fate or Future?

Professor Alan Williams, who holds the second chair in Commerce at the University, has pioneered research into the rise and fall of small business entrepreneurs in Australia. The theme of Professor Williams' studies — that bankruptcies and business failures are enormously detrimental to Australia — is amplified in this article, which also outlines the Professor's method of predicting which entrepreneurs are likely to be successful.

A predominant emphasis in business education, for decades, has been toward large enterprises and only in the past five years has there been any discernible interest in the nature, problems and modus operandi of the small business and the independent entrepreneur. In fact the interest is growing at a rate best described as prodigious. Is this concern justified? Is it a fad?

The reader may judge for himself the real impact on the economic health of the Australian community and, indeed, on the total quality of life of some 350,000 business ventures.

By any reasonable yardstick, the vast majority of these firms are small. For example, firms employing fewer than 20 people constitute 71% of all manufacturing firms, 97% of all retailers, 80% of all wholesalers and 98% of all service-based firms. They employ about 45% of the total workforce, that is approximately 2.5 million workers. As many as seven million Australians depend directly on small businesses for their livelihood. The contribution to value-added by small firms ranges from about 42% in manufacturing to over 70% in other industry sectors.

Practically every large company is reliant to a significant extent on many hundreds of small suppliers and retail outlets, G.M.H., for example, using some 4,000 small suppliers of parts, components and services.

There are also varied and vital contributions made by the small business "sector" to the economic and social fabric of society which cannot be expressed in, or appreciated solely from, statistical data. Small firms and their owners contribute in many ways to the quality of life and their diffuse endeavours so permeate our way of



Professor Williams.

life that it is impossible to discuss them adequately in this analysis. It is sufficient to recognise that small firms, inter alia:

1. provide a breeding ground for new inventions and innovations,
2. contribute significantly to a geographical balance of industry and therefore to decentralization,
3. provide a balance between large and small industry in which the latter complements the former to a very marked degree,
4. are a means whereby entrepreneurial talent and creative independence may be exercised fruitfully,
5. represent a seed-bed starting point since practically every large company started life as a small independent venture,
6. provide a stabilizing influence — an aid to community loyalty and social stability particularly in suburbia and country centres,
7. offer a means of gainful employment for persons unable to find acceptance in public service, the professions and large business (e.g. older, physically and mentally handicapped persons and minority groups), and
8. are essential in a free enterprise or mixed economy for a strong competitive spirit and concern for efficiency of product and service.

Without any doubt, the small firms in our community are significant in terms of their numerical predominance and their varied and essential social and economic contributions.

Despite this fact, there is a heavy mortality rate among small firms, probably totalling some 12,000 annually in Australia, constituting a shocking waste of economic and human resources and creating at least half of the total unemployment. Small firms (generally accepted as being those which are relatively small in their particular industry, are owner/managed and independent of external control or direction) represent the vast majority of failures (e.g. 86% of failures in the author's doctoral study employed fewer than 20 persons). Also of importance is the fact that nearly 28% of failures were under one year old, 41% less than two years of age and 69% under five years old.

A study of 863 failures showed that 6943 persons became unemployed, 9497 creditor firms lost at least \$200 each, a total of 1128 families (of proprietors, partners and shareholder/directors) suffered the indignity, economic loss, and psychological and social trauma of involvement in a business failure — of "going broke". Ill health, marital problems and distinct evidence of emotional stress were obvious in 75% of the affected families.

In the greater Newcastle region, with approximately 9,500 small firms and no less than 400 failures each year the nightmare of "going broke" is affecting some 500-600 families annually, causing significant bad debts for about 4,500 other firms and causing half the region's unemployment.

The above picture represents a problem of massive and serious proportions — a national disgrace and a national challenge. What should and can be done?

Analysis of the characteristics common in studies of small business failure indicates very clearly that management inexperience and incompetence are associated with over 90% of small business terminations. The

unwittingly destructive influence of the inexperienced, naive, unprepared and incompetent owner/manager is the underlying factor.

The initiation of any programme of assistance for small business necessitates a thorough understanding of the fundamentals of small business management and of the entrepreneurial role. The author's research indicates that there are two distinct but related sets of skills, qualities and characteristics involved in successful small business ownership/management — entrepreneurial and managerial.

Entrepreneurial characteristics are complex and diverse, relating closely to personality traits. Among the personality factors incorporated in the profile of the highly entrepreneurial individual are:

1. strong task and achievement motivation,
2. assertive, rather than compliant, interpersonal orientation, and,
3. an appropriate role perception.

The first two sets of factors produce a natural inclination or propensity for, respectively, innovative work and achievement oriented behaviour, and assertive, controlling and objective interpersonal relations, whereas the latter set is concerned with one's perception of what patterns of behaviour are desirable/necessary for success in the work role here being discussed. The individual who has the required behavioural propensities in significant measure, and can see such characteristics as necessary for successful small business ownership/management, is generally the superior performer.

Measurement of these characteristics and attitudes is now possible and once the aspiring "entrepreneur" realises that he is deficient in an area of his "profile", he can quite readily improve. The author has led development programmes in which participant entrepreneurial inclination and behaviour have been improved significantly.

The second major set of characteristics relates to skills and competence in the field of management. The efficient owner/manager of the small firm must provide his venture with well-rounded experience and preparation, so that he can manage (organise, staff, plan, direct and control through

leadership, decision-making, problem solving and communication) in every business function pertinent to his venture e.g. production, marketing, accounting and finance, personnel etc. To this end, there are three identifiable groups of important factors:

1. experience and preparation (relevant trade/professional experience; well-rounded managerial experience; thorough preparation for starting *this* business in *this* locality),
2. support and stress reduction from other life roles (in particular spouse and family support; no second job) and
3. other factors (some business education; start in business during age 30-40 years; good physical health).

Improved entrepreneurial and managerial inputs are far more important to the success of an ailing small business than pouring in finance.

There is much which must remain unstated in this brief analysis, but the essentials are obvious. All organisational work roles have a capacity for inducing and/or exacerbating psychological stress in the worker, and this is probably more true of the entrepreneurial role than most others. The ability of the small business owner to operate effectively and efficiently in his difficult role, is the consequence of his possession and utilisation of a wide range of skills, capacities and personal qualities. These factors have been labelled loosely as either entrepreneurial or managerial. A serious deficiency in any one or more areas will tend to render the in-

dividual either ineffective or inefficient, or both, through the debilitating influence of stress. As evidence and observation suggest, this is the case with the majority of Australian small business owners.

The author's study of the Australian small business owner/manager (the majority of whom are grossly lacking in entrepreneurial characteristics), has shown that not only do individuals who manifest entrepreneurial propensity and talent have a number of characteristics in common, but there are also very real personality, biographical and experiential differences between successful, marginal and unsuccessful independent entrepreneurs. Even though entrepreneurial research is still in an early and rather rudimentary stage of development, successful entrepreneurial identification appears to be quite feasible.

Remedial and preventative action is required, on a wide front, with a variety of educational/training/developmental programmes coupled with availability of counselling help, and relief from certain discriminatory legislation. Such assistance, aimed at promoting entrepreneurial spirit and activity has tremendous potential, as has been demonstrated in many other countries.

Economic growth and development, and the quality and volume of entrepreneurial spirit and initiatives, are significantly correlated. Concern for small business and the entrepreneur is long overdue.

Please advise

The Secretary, University of Newcastle, 2308, of

* Your change of address

* Names and addresses of other graduates who are not on the mailing list for "THE GAZETTE"

* Changes in marital status

Commemorative Dinners

To commemorate the first quarter century of University education in Newcastle and the Hunter Valley Convocation organised two anniversary reunion dinners for graduates.

The dinners were held simultaneously at —

Edwards Hall, for graduates who reside in the Hunter Valley and, St. John's College, University of Cambridge, for graduates who live in the United Kingdom.

The Edwards Hall dinner was a bright and felicitous function which reunited many students of past years.

The guests found that the menus were presented inside souvenir folders, which gave the history of the University in newspaper cuttings.

A special University birthday cake was cut by the Deputy Chancellor (Dr. F. O. J. Purdue) and the Warden of Convocation, Mr. B. W. Relf.

There was a welcome by the Warden, then a toast to the University by the Vice-Chancellor, Professor D. W. George. Emeritus Professor Auchmuty, the first Vice-Chancellor, was guest speaker.

Professor George said any incoming Vice-Chancellor who could start from the vantage point which had been provided for him, with his University possessing such natural beauty and such academic standards, was very fortunate indeed.

He congratulated the Warden for what Convocation had done to achieve the happy function they were at and the dinner in Cambridge — and the other things which Convocation had initiated during this year.

Professor Auchmuty was Vice-Chancellor from 1965 to 1974. His reminiscences were most appropriate for the anniversary.

In his own words: "It is wonderful to see so many old friends, going right back to the very first year in which I enrolled Arts students."

He expressed the view that Convocation and the graduates had made a very great contribution to the history of the university, especially its Wardens — Dr. Helmore, Mr. Talty, Mr. Derkenne, Professor Dutton and Mr. Relf.

"I am perturbed by the fact that so many of our students are birds of



(Above) Some of the guests at the dinner in Cambridge — Professor Upfold, Mrs. Upfold, Mr. John Campbell, Mrs. Jill Buckland and Mr. Bill Buckland.

(Below) Pictured at the dinner held in Edwards Hall — the Vice-Chancellor, the Warden of Convocation and the former Vice-Chancellor. Photos: Newcastle Sun.



passage — here today, gone tomorrow without degrees. However, Convocation members are those who have achieved a full education."

Professor Auchmuty noted that the University had held the first graduates' dinner on April 17, 1962, when 50 people were present. By this point the university had already produced some outstanding scholars — and had won the Rugby Union grand-final twice. It was about to win the grand-final again.

He also noted that the Deputy Chancellor, Dr. F. O. J. Purdue, had been present, and had spoken, at the official opening of Newcastle University College in December, 1951.

As for his opportunities as Vice-Chancellor: "After independence was granted to the University progress was consistent. I was fortunate from the time I came to Australia because it was a period of continuous expansion. The University started from a low economic base and, as we moved on, there were satisfactions every year."

He recalled having been present at Convocation's first dinner on November 1, 1968, and concluded by stressing how happy he was to be with graduates and staff members of the University after 24 years.

Some of the guests at the Cambridge dinner travelled long distances, for example, Margaret Norris, who flew in from Vienna where she is doing research, and Professor Godfrey Tanner, a Fellow of St. John's College, who came from Australia.

Professor Tanner said grace and Professor R. W. Upfold, of Wollongong University, a 1955 B.E. graduate, proposed the toast to the University and its next 25 years.

Miss Carmen Johanson proposed the toast to Convocation. She is a Ph.D. student at the University of Cambridge and said it was a special pleasure for her to be attending a Convocation function thousands of miles from Newcastle, as she had belonged to Standing Committee before she went to Cambridge.

Mr. W. G. Jones, a Lecturer at Newcastle College of Advanced Education, responded. Mr. Jones is a former Secretary of Convocation and is attached to the Open University as a Ph.D. student. He was coordinator for the dinner and made most of the preparations.

Mr. Jones thanked Professor Tanner for having arranged for Convocation to hold the dinner in the wonderful Wordsworth Room. Having taken a telephone call from the Warden of Convocation (Mr. B. W. Relf) prior to the dinner he could inform the guests that the Edwards Hall dinner had been very successful.

Mr. Jones delivered a report on Convocation and its latter-day activities, including the fanfare and procession.

Sir Hugh Springer, Secretary-General of the Association of Commonwealth Universities, was guest speaker.

He commented that to have achieved in 25 years the distinction which the University of Newcastle had achieved in the university world was worth celebrating with joy and gratitude.

Strong ties united Australia with the Association of Commonwealth Univ-

ersities, he said. When the Association was founded in 1913 as the Universities Bureau of the British Empire, the six Australian Universities then in existence were all members, and the same was true today of the present 19 institutions.

Sir Hugh reflected that the University of Newcastle was one of the very first that he visited after taking office as Secretary-General. That was early in 1971.

"Needless to say I was greatly impressed by what I saw and by the people I met. James Auchmuty and his wife proved, not surprisingly, to be charming and generous hosts, and his colleagues were equally warm in their welcome.

"The visible pride they all showed in the growing University, with its fine architecture and its uniquely picturesque site, seemed entirely justified, especially to one who like myself had been through the exciting and often traumatic experience of helping to build a new university on a virgin site."

Sir Hugh observed that the rapid growth in size of the individual university tended to alter its character as a community. It was easier, he said, for a small community that grows only slowly to preserve its values, since dissent can be contained and dissenters chastened or disgorged.

"What I have just been saying reminds me that the Twelfth Commonwealth Universities Congress, to be held in Canada next year, will have for its general theme reconciling national, international and local roles of universities with the essential character of a university; for these words seem admirably to sum up the purpose with which Professor Auchmuty and his co-workers have guided the development of the University during its first crucial years.

"One other absent friend who is certainly with us in spirit is the Vice-Chancellor, Professor Donald George, who I am sure must wish that he could be in two places at once. Perhaps in the year 2002 when the University celebrates its Golden Jubilee, Professor George or his successor will manage to attend both functions by travelling westward on Concorde III.

"May Newcastle continue to flourish and all who work within her walls," Sir Hugh declared.

Mr. Bruce Humphries, who graduated in 1974, thanked Sir Hugh on behalf of the guests at the dinner.

Former Staff Member Donates Rare Book

The Auchmuty Library and students of Pacific Islands history have profited by Miss Eve Buscombe's former employment at the University.

Miss Buscombe has presented a rare book to the library to mark her attachment to the Department of History as a Tutor from May, 1973, to January, 1976, and to recognise the fact that the subject Pacific Islands history is offered to students by the Department.

In a letter to the Vice Chancellor, Miss Buscombe stated that the book, *The Story of the South Seas*, must be rare as the Fisher Library, University of Sydney, did not possess a copy.

The Story of the South Seas is a history of the London Missionary Society from August, 1796, when the good ship *Duff* sailed from the Thames carrying the first missionaries to the Pacific Islands, to 1894, when the book was published.

The Author, George Cousins, tried with the book to impress upon people "the greatness of the enterprise which they have been helping forward." He was referring to the efforts of the London Missionary Society, which had a ship, the *John Williams*, functioning in the South Pacific.

The book which Miss Buscombe donated to the University was "presented to Nellie Stephens by the London Missionary Society for collect-5/7 for paying off the debt on the steamer *John Williams*..."

The University is always gratified when its graduates and former staff members take a particular interest in the institution and express this interest in the form of books, equipment or other donations which support the pursuit of scholarship.

Research, Development and Instruction

The Department of Electrical Engineering has developed greatly in the decade since the appointment of the Foundation Professor of Electrical Engineering, Professor Brian Anderson. In this article Professor Anderson and Associate Professor Graham Goodwin who was Acting Head for a period in 1977, discuss the work of the Department with The Gazette.

QUESTION :

Could you give us a brief overview of the Department's activities?

ANSWER :

Our research covers a number of areas including control theory, signal processing, time series analysis, computer aided design, communication systems, high frequency devices, computer hardware, computer software and electrical machines. We have received support from a number of grant giving bodies for research in each of these areas. We are particularly proud of the fact that almost all members of staff have been able to attract research funds to their projects.

In recent years the Department has been placing increasing emphasis on development work especially in relation to industrial consulting work. Our main areas of activity have been industrial electronics and computer software. More recently we have been looking at microprocessor applications.

Our activities in instruction cover undergraduate courses in both Electrical Engineering and Computer Engineering together with advanced courses for postgraduate students. The Department has put a considerable amount of effort into the structuring of our courses so that they meet the needs of students. We now firmly believe that our courses, the undergraduate component in particular, are among the best in the country and would equal the best available overseas.

Q. Your Department is often mentioned in the lists of annual research grants made by the Australian Research Grants Committee. How much has been awarded to you for research projects in the last five years?

A. The total support from all grant-giving bodies of the past five years has been approximately \$200,000.



Professors Goodwin and Anderson collaborating on a joint paper.

This amount has been distributed amongst nearly all our staff members, each of whom has received support for individual projects.

Q. Do any other bodies give financial assistance?

A. Yes they do. The main two bodies which have given us assistance in research grants which have to be competed for are the Radio Research Board and the Electrical Research Board. We have received approximately \$30,000 in support from bodies other than the ARGC over the past five years.

Q. What is the biggest single factor which attracts research grants to your Department?

A. The answer to this would have to be that the quality of the projects and the estimate by the granting authorities of the proposers' capacity to execute these projects make them highly competitive. Also, to a degree, success breeds success. Therefore, once Department members show that they can perform well with one grant then they probably become to be regarded as reasonable investments for further grants.

Q. Professor Anderson, could I ask you to tell us a little about the beginnings of the Department and the backgrounds of the first staff appointments? What were your aims and overall strategy?

A. The Department has its origins in the pre-autonomy days of the

University. In those days, all full-time degree students had to do the final two years of their degree at the University of New South Wales, and much of the Department's effort was in fulfilling a service role to other engineering departments. When I came at the start of 1967, there were four existing members and one new member of staff who came with me, in fact starting the same week — John Moore, who is now a professor in the Department. Our first major task was to mount a fourth year course for the first time. During that first year, much of our work was concerned with setting up an undergraduate curriculum, and in hiring new staff members. We've always considered that the making of staff appointments is really the most crucial exercise in which the Department gets involved. In making appointments, we have had twin goals in mind. The first goal was to build up an area of specialty within the Department. This involved assembling a group of four or five people with similar interests who, as a result of the interaction they have with one another, can produce far better work than they could by acting in comparative isolation. You can call this a critical mass effect, synergism, symbiosis or potentiation, depending on your background. The second main goal we had was to get the very best people. In general, this did not mean simply advertising and taking the best applic-

ant. Rather, on a number of occasions we searched round Australia, physically and on the telephone. With likely overseas applicants, we would normally talk to at least one referee on the telephone. Also, I think on most occasions we would have advertised more than once, simply not being satisfied with the applicants from the first round of advertisements.

Q. Could you give us some idea of the size of the Department now?

A. At the moment we have 10 full time Academics, 12 support staff in the office, laboratory and workshop, 13 postgraduate research students, 3 course work masters students and 144 undergraduate students.

Q. Where do you draw your postgraduate students from?

A. We have had students from most universities in Australia, and not just students with undergraduate backgrounds in Electrical Engineering. We have had students with degrees in other fields of engineering, as well as students with Science, Mathematics and Commerce undergraduate degrees.

Q. What distinctive courses do you offer your undergraduate students?

A. The Department takes considerable pride in its undergraduate courses. We feel that our courses have several features which are distinctive in the Australian scene. Perhaps the most distinctive feature of the content of our undergraduate course has been our inclusion of more material of a computer science nature several years in advance of other Australian universities. In fact as we have mentioned previously, we now offer an undergraduate degree in Computer Engineering, as distinct from Electrical Engineering. Ours was the first such degree in Australia but at least one other university is seeking to introduce such a degree now. We also feel that we have made a number of significant innovations in the way we interact with students including an adviser system, the creating of Industrial Experience electives and student assessment of subjects. We are also always looking for ways to make our courses more attractive. For example, in 1978 we plan to offer a sandwich pattern as a possible option for industrially sponsored students.

Q. What is the Department's basic approach to research student education?

A. Our guiding philosophy is to treat the experience of postgraduate study as a term of apprenticeship in which the student interacts with an experienced researcher. This implies that, particularly in the first year or so of his graduate program, the students will work very closely with supervisors often leading to the joint authorship of technical papers. We also give great emphasis to the need to teach students to communicate effectively, and all our students go through a rigorous seminar training program. In the seminars they report the results of their research and receive feedback from staff and other students on their research goals and on their presentation skills. As a result, we feel that most of our students improve considerably in the area of technical communication.

Q. Your staff consists of lecturers of many backgrounds does it not?

A. Yes that is quite true. More than half our staff have done graduate work overseas, some in U.S.A., and some in the United Kingdom. They have had a variety of experiences before coming here, in both industry and university. As a result, we have among our staff members some who are making some very real and substantive contributions on the local industrial scene, by way of development rather than research.

Q. Is it true that your Department encourages staff to go overseas to learn about modern developments?

A. Indeed we feel it is vital for staff to go overseas, and indeed some do with a frequency which other departments would doubtless find high. Our discipline is a fast moving one: some have said that the half-life of Electrical Engineering Technology, that is, the time span over which half of it becomes irrelevant, is about five years. This in itself constitutes a good argument for a person going overseas more often than once every seven years. We have found though that the real advantage of going overseas often comes just from the opportunity to interact with others in one's own specialty in conversation, rather than by the printed

page. So much work in science and engineering proceeds via a union of minds coming together to thrash out an idea, and it is the overseas travel that makes possible this sort of union of minds. You may be interested to know that a number of us have in fact co-authored papers with overseas colleagues as a result of these trips.

Q. The publications list for Electrical Engineering staff is uncommonly long. How can staff achieve so much more than other departments in the University?

A. There are several ways one might answer this question. Perhaps the simplest is to say that if one is fortunate enough to have staff of high quality, then fairly naturally a high performance flows from it. But it's fair to say that publishing has been encouraged. We have tried to remove the annoyances of, for example, limited secretarial time. We have tried to avoid the pitfall of consuming vast proportions of the resource of staff time in the offering of low enrolment courses. And in all this, we have consistently received encouragement from the Administration and Dean. Some of our research is in areas in which it is perhaps easier to publish than in some others, though equally, we are not in one of the disciplines in which it is easiest of all to publish. As we mentioned before, graduate students often act as co-authors. But also, faculty members are often co-authors with each other.

Q. Are there any special factors which have facilitated the work of your Department?

A. We have been greatly assisted by our technical and workshop staff. We are fortunate to have some excellent craftsmen. All support staff have shown a willingness to assist with the research and to try new innovations. Also we have been assisted by a part-time administrative assistant who has contributed to the smooth running of the Department and also by releasing staff members from certain routine jobs, has provided additional time for research work.

Q. Have you written anything of significance lately?

A. Both of us have written books which will appear fairly soon in print.

Former Student now Professor

The position of third Professor in Commerce has been filled with the arrival of Professor Joseph K. Winsen. Professor Winsen obtained his B.Com. degree with first class honours from the University of Newcastle in 1968 and his M.Com. degree in 1971. He was a Senior Tutor in Accounting prior to going to Ohio State University to embark on post-graduate studies.

In 1973, while a Graduate Teaching Associate in the College of Administrative Science at Ohio State, he was awarded, first, the degree of Master of Arts and, then, the Doctorate of Philosophy. His dissertation research was titled Investor Behaviour, Stock Market Efficiency and Publicly Available Information. It was an attempt to use stock market data to assess the influence of corporate financial reports on the ability of investors to comprehend publicly available information.

He moved to Berkeley in 1973 to take up an appointment as Assistant Professor of Business Administration at the University of California, a position he held until he accepted the Chair in the Faculty of Economics and Commerce.

Professor Winsen has published widely in the Accounting field. He is a member of several professional associations in Australia and the U.S.A.



Professor Winsen.

As a Consultant he has received a variety of commissions, including Principal Investigator for the U.S. Nuclear Regulatory Commission's study of the relative costs of alternate plutonium inventory systems in 1976.

Professor Winsen comments on the introduction of the Master of Commerce in Accounting/Finance by coursework and dissertation, to be introduced in 1978:

"With the simultaneous introduction of the M.B.A. and M.Com. degrees by coursework and dissertation in 1978, it seems appropriate to briefly differentiate between them in commenting on the latter.

"The M.B.A. degree programme, offered by the Faculty of Economics and Commerce, is primarily aimed at those with undergraduate education in fields other than business and management. It provides a broad coverage of business administration.

"The M.Com. in Accounting programme, offered by the Department of Commerce, builds upon an undergraduate education in commerce. It provides in-depth coverage of Accounting and Finance. The objective of the programme is to develop analytical and applied decision-making ability at an advanced level in such fields as Auditing, Managerial Accounting and Finance, among others.

"While students are given some choices in the second year of the two year full-time programme (or its part-time equivalent) the first year provides a common experience in financial managerial accounting with an investigation of contemporary conceptual and applied thought in these fields.

"It is envisaged that in most cases the dissertation will involve analysis of an applied problem in the context of an existing or prospective organisation. If a central theme must be identified, it would be characterized as the role of uncertainty in financial decision-making," Professor Winsen stated.

One Approach to Controlling Human Fertility

This year the Ford Foundation of New York awarded a grant for \$105,000 over three years to support research work by Professor B. Boettcher in the field of immunological control of fertilisation. The award follows work already performed by Professor Boettcher and has been made in a field which is being explored for possible practical applications. In the article which follows Professor Boettcher, Head of the University's Department of Biological Sciences, delves into the state of this branch of fertility research.

Although there are several different approaches present for the control of human fertility, new methods are still needed and research needs to continue.

In recent years oral contraceptives, or "the pill", and intrauterine devices have gained widespread acceptance in Australia and other western countries and are practical, efficient and safe. In fact, a recent study has shown that for women in the age groups of 15 to 39 annual death rates are lower for women practising fertility control than for women using no external method of controlling their fertility. Using IUD's, pill, condom, diaphragm or abortion to control fertility, either singly or in combination, produces less risk than pregnancy and child birth.

However, methods of fertility control found practical in Australia are not necessarily practical in other countries. In the countries to the near

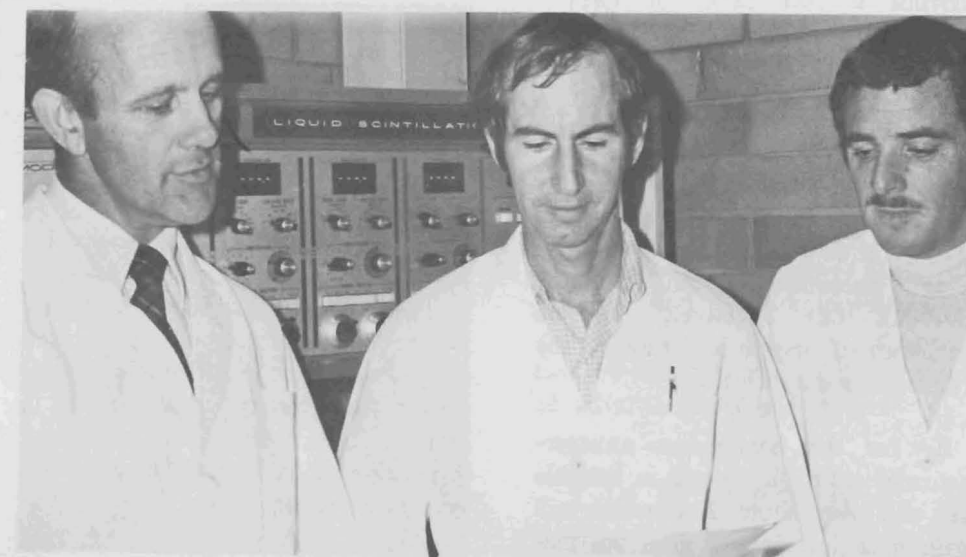
north of Australia marketing difficulties and inadequate medical advice and supervision cause the IUD, the pill, condom and abortion to be considered largely impractical. It seems possible that, in such areas, vaccination to control fertility, if able to be developed, would be both practical and acceptable. It is for such reasons that funding agencies are currently providing funds for research in possible new methods of contraception, including immunisation.

The World Health Organisation, as part of its expanded programme of research development and research training in human reproduction, has a number of task forces investigating the development of methods of fertility regulation, including one task force

devoted to immunological methods. One of the approaches of this task force is to examine natural ways in which immunity can cause infertility. It is hoped that by understanding these "experiments of nature" we may be able to reproduce such procedures in controlling fertility ourselves. In a minority of the infertile it appears that immunity to spermatozoa is the cause of the infertility. This is the field in which we are working.

For the past ten years I have been examining infertile couples in Adelaide and, now, in Newcastle, where no cause for the couples' infertility had been found, despite investigation. Antispermatozoal antibodies have been found in some of these couples and the infertility of the couples has been attributed to the action of these antibodies in rendering the spermatozoa incapable of fertilisation. In some cases, where the wife has been immunised to spermatozoa, prevention of contact with spermatozoa has allowed the immunity to decrease and, ultimately, for the activity to spermatozoa of the woman to decrease to an undetectable level. At that time, unrestricted intercourse has sometimes enabled pregnancy to occur. The task is more difficult in the man, because it is usual for him to have spermatozoal production continuously. Some trials with men of stopping the production of spermatozoa by giving long term injections of testosterone, the male sex hormones, failed to decrease the antibody levels in the males.

Of course, the question arises: why do some men and some women form antibodies to spermatozoa? It is certainly not a usual occurrence. Really the question might be looked at in the other way. Why don't men and women usually become immunised by spermatozoa? The reason for asking the question in this way is that we normally consider that if the body meets up with foreign materials such as a virus or bacterium it will become immunised to it. The body might well look upon spermatozoa as a foreign organism, since it is not until puberty in the male and until intercourse in the female that the body meets spermatozoa. At this late time in an individual's life, the body has learned to recognise its own compon-



Three members of the Ford Research Team discussing results: (from left) Professor B. Boettcher, Associate Professor R. Jones, Dr. R. Murdoch, other members of staff involved in the project are Dr. T. Roberts, Dr. D. Kay and Dr. P. Quinn.

ents and those which are foreign. Certainly, if injected into body tissues, spermatozoa would be recognised by virtually all males and females as being foreign organisms and immunity would result.

However, the reproductive tract can be looked upon as being a hollow tube and, normally, spermatozoa do not penetrate into body tissues where they would be expected to stimulate the immune response. For this reason, males and females do not normally become immunised to spermatozoa.

While saying this, it should be pointed out that within the Department of Biological Sciences Dr. Roberts and one of his graduate students, Mr. A. G. Tumboh-Oeri, have found that white blood cells of female mice and women do become stimulated to recognise spermatozoa after intercourse, even on one occasion. This sensitisation of white blood cells can be looked upon as the first step of immunisation, but actual symptoms of immunisation cannot be demonstrated in these animals.

Nevertheless, this important observation suggests that normally females are stimulated by spermatozoa, but some block occurs to stop them from expressing this as frank immunisation. The nature of this block is important to understand, since, if it could be removed, then we would well imagine that many, or all, women would be

able to become immunised readily to spermatozoa through normal intercourse.

Last year, during my study leave, I worked at the Institute of Medical Microbiology at the University of Aarhus in Denmark. In this Institute the World Health Organisation set up a bank of sera from infertile couples sent in from researchers all over the world, including myself. The idea of the serum bank is to enable researchers interested in this area of work to subject the same sera to different tests, and then to pool the results. While at the Institute, I was able to show that the antispermatozoal antibodies developed by infertile men and women are directed at components of the spermatozoal outer membrane rather than components of the seminal plasma or fluid portion of the semen. Further, results of studies on the bank sera have shown that a few infertile people form antibodies to a very specific enzyme in spermatozoa, called lactate dehydrogenase-X (LDH-X). This enzyme is involved in the production of energy by spermatozoa.

In the mouse and rabbit, it has been very effectively demonstrated in the U.S.A. that antibodies to LDH-X effectively reduce fertility. Such effect of antibodies to LDH-X in man has not yet been investigated, but our group is involved in work with this end in mind. At the present time, Mr. M. Coughlan is developing proce-

dures for the detection of antibodies to LDH-X and, with Dr. R. N. Murdoch of the Department, will investigate spermatozoal metabolism in the presence of these enzymes. On a practical scale, this work will show whether, if women have antibodies to LDH-X in their reproductive tract (by being immunised with purified LDH-X), this effectively prevents spermatozoal migration through the female reproductive tract.

By far the commonest antispermatozoal antibodies found in infertile men and women are those which will agglutinate or immobilise spermatozoa. The nature of the compounds on the spermatozoa which these antibodies recognise is the problem now being faced by the group, and will be the major aspect of the work to be developed with the Ford Foundation Grant.

The available funds will mean that this specific research project can be attacked with resources comparable to those available in similar university departments overseas. From my overseas travels, I have come to realise that the levels of research funding within Australian University departments are far lower than those available in virtually all other western countries. Australia has the trained personnel and the standards to be making appropriate contributions to scientific research of all forms comparable with other countries, such as Sweden, Denmark, The Netherlands, France or Germany, but that lack of adequate financial support really means that, to an appreciable degree, Australia is simply adopting many of the results obtained overseas without contributing an appropriate share.

I see the Ford Foundation grant as enabling our group to now contribute an appropriate share of the research results in this field in which I am interested and have been active for some years. The University's Department of Biological Sciences was the venue for an International Workshop on Immunology in Human Reproduction from July 10 to 14 1977.

The aim of the workshop was to provide a forum where workers could present results related to Immunology in Human Reproduction and, also, where specific topics could be discussed in depth by the specialists.

One of the most popular topics for discussion was the present attempts to immunise women with a hormone that is found only in pregnant women and is important in maintaining pregnancy. Preliminary clinical trials in this area have recently been encouraging, although an increase in effectiveness is necessary.

Another interesting field was immunisation in men who have undergone vasectomy where the spermatozoa are being resorbed actively within the body. It is certain that many of these men do become immunised to spermatozoa, but it does not appear to be detrimental to them. However, the chances of restoring fertility in these men should they desire it, is not certain at this stage and the effect of the antispermatozoal antibodies they have developed is currently being investigated.

The proceedings of the workshop have now been published by Academic Press under the title "Immunological Influence on Human Fertility."

In recent years a graduate student from the Department of Biological Sciences, Mrs. R. Gruszynski, has shown that antispermatozoal antibodies do decrease the migration capacity of spermatozoa, and this is considered to be a way in which antispermatozoal antibodies can reduce fertility.

Resulting from Professor Boettcher's interest and activity in the field of immunity to fertilization he is currently a counsellor of the International Co-ordination Committee for Immunology of Reproduction, which has its headquarters in Sofia, Bulgaria, and he is a member of the advisory board for the World Health Organisation Reference Bank for Reproductive Immunology in Aarhus, Denmark.

The University on Public Show

At least 6,000 people accepted the invitation to see the University at work on Jubilee Open Day, September 11, 1977.

From 10 a.m. to 5 p.m. the visitors were offered inspections of departments, exhibitions, demonstrations, information about courses, sporting displays, films and jazz.

The Open Day marked the 25th Anniversary of the beginning of University education in the Hunter Valley.

A special feature was the Jubilee exhibition in the Great Hall. This consisted of displays of pictures and graphs reflecting on the University's growth, achievements and resources over 25 years. Convocation also organised a display, which informed the visitors about the careers of certain graduates of the University.

According to figures from the Union more than 1,000 people were served food between noon and 3 p.m.

A jazz band which originated at Newcastle Boys' High School, the Jelly Roll Band, gave two concerts in the plaza. The band was heard by a large audience which appreciated both the contemporary jazz and the delightful surroundings.

An unusual display was mounted by the Australia-Japan Society in the Japanese section of the Department of Modern Languages. To illustrate the Japanese section's courses and Japanese culture in general the society gathered a diverse range of items, including clothes, dolls, calligraphy, banners and books.

A special booklet made for the visitors' day reproduced a map of the campus and contained full details of displays. Copies of this guide were handed to people as they arrived in their cars by students who had volunteered their services.

Course advisory services in the offices of some Departments, staffed by academics, and information desks in the Great Hall, manned by student counsellors and the student employment officer, gave prospective students an opportunity to obtain answers to questions concerning enrolment.



Open Day proved a fun-filled day, with face-painting by students of drama a popular attraction (above). (Below) Mr. K. Ono, Lecturer in Japanese, demonstrated the art of Japanese writing.

Photos: Mr. Giles Martin



Prior to Open Day a souvenir supplement highlighting the 25th anniversary appeared in the Newcastle Morning Herald.

The Director of Open Day was Professor A. Herzog, Associate Professor in Civil Engineering.

The Jubilee Open Day Committee comprised representatives of the Faculties and the Administration.

For publicity purposes a special emblem was designed. It was printed on advertisements and posters.

Fanfare

The University obtained a permanent reminder of 1977 — quarter century year — when Convocation "presented" it with a fanfare and processional for ceremonial occasions.

In recognition of Sir Alister McMullin's outstanding contribution to the University, Convocation decided to dedicate the new fanfare and processional to him.

The commission was awarded to Nigel Butterley, the Australian composer.

The composer had the piece ready for the Graduation Ceremonies on April 23 and 30, 1977.

The fanfare was played to announce the arrival of the Chancellor (Sir Bede Callaghan) at the door of the Great Hall. The processional was then played as a march theme for the arrival of the official party. It was repeated at the close of the ceremony to signalise the departure of the official party.

The two pieces were written for brass and percussion. A scoring for organ has also been provided. Nigel Butterley has been writing music since he was 12. With Richard Meale and Peter Sculthorpe, he belongs to a group of Australian composers which commands international attention.

He was awarded the \$3,200 Italia Prize with Head of Fire in 1966. His considerable output of musical works includes film scores and music for plays.

He has left Australia to make an overseas study tour and intends to present the fanfare on the campus at North Western University, in the United States, in 1978.

Women and the University



Professor Dutton

Professor Ken Dutton, former Head of the Department of Modern Languages and Immediate Past Warden of Convocation, had a hearty crack at the unequal position of female graduates and female academics with his address to Hunter Valley Branch of the Australian Federation of University Women.

Here we present extracts from Professor Dutton's address, in which he explores his theme of prejudice and discrimination against University women.

Who is this that takes degrees
With an almost shocking ease —
Calculus to her no bore,
Integral or differential
Logarithms as essential
As her cup of tea at four?
Who is this divinity,
Progressing to Infinity?
Who is this? — What need to state:
She's the Lady Graduate.

So wrote a contributor to the *Gazette* of University College London in the closing years of the nineteenth century. If the same mixture of surprise and amusement would hardly be felt by a writer today, we should not forget that it is only a little over a hundred years since the first women were even admitted to universities in Britain, and less than a hundred since they were admitted to the University of Sydney although it had already been an established university for some twenty years.

From that day to this, the history of women's participation in university

life has been one of a slow but dogged battle against prejudice and discrimination, one which, even in our own day, is not fully won. I should like to identify two areas in particular in which it is still being fought.

The first is that of the relationship between careers and marriage. In 1923, when Gemma Bailey published her *Short History of Lady Margaret Hall*, she was able to state that after 45 years of the College's life, about a quarter of its students had married. And that was by no means an unusual statistic to point to in relation to women graduates. Nowadays, marriage is the normal expectation for women undergraduates (for some, indeed, it seems a chief preoccupation). Many women undergraduates today are already married, whether or not they are "mature age" students.

The typical employment pattern of married women graduates seems to fall into three stages: first, a period of professional employment between graduation and marriage, or until the arrival of children; then, several years of domestic life devoted to the rearing of a family; and finally, the stage in which the graduate can return to professional work, and is often anxious to do so.

The problem of retaining her skills through the domestic and family years (even if these are decreasing in number with the greater availability of child care facilities) may well be a severe difficulty, but there are others as well. The woman who graduates usually expects both to marry and to work, but she often has to accept, as an unavoidable compromise, work which doesn't measure up to her capacity but happens to be obtainable where her husband is working. Few indeed are the cases, to my knowledge, of a husband who has accepted work of a lower level than his qualifications permit, simply because he had to follow his wife where her job as a graduate took her.

The second problem is that facing women who seek a University career, though in this area I think it is true to say that the situation has changed and continues to change, for the better, with every year that goes by.

The *Sixth Report* of the Universities Commission (May 1975) published some interesting figures on the number of female academic staff in Australian universities. Essentially, the picture is that from 1965 to 1974 the proportion of female academic staff to total academic staff rose from 12.5% to 15.3%, a movement broadly in line with the relative size of the potential pool of qualified women (i.e., women with Masters or Ph.D. degrees). But the distribution pattern is interesting: whereas female academic staff represented one-sixth of total staff numbers in 1974, they were heavily weighted towards more junior positions — representing 36% of staff at Tutor level, 36.3% at Senior Tutor level, 14.8% at Lecturer level, only 7% at Senior Lecturer level, 3.6% at Associate Professor level and a mere 1.4% at Professor level.

It is interesting, though saddening, to note the dearth of women in senior university posts. If it is true that Australian universities were in advance of Oxford and Cambridge in the admission of women to degrees, our elder sister institutions in Britain have caught up and sped past us in recent years, Cambridge itself having a woman (Dr. Rosemary Murray) as Vice-Chancellor. Even in older institutions such as my own *alma mater* the Sorbonne, the Rector (equivalent to Vice-Chancellor) is now a woman, Professor H el ene Ahrweiler. Another woman, Dr. Lorene Rogers, was recently chosen as President of the University of Texas — something unthinkable ten years ago, since it was only in 1962 that Dr. Rogers was refused a Professorship in Chemistry on account of her sex.

If giant strides have been made in universities overseas, why not in Australia?

The fact is that the examples I have mentioned are still fairly rare, even in overseas countries. The results of some research by Dr. Tessa Blackstone of the London School of Economics, relating to academic posts in the U.K. and the U.S.A., were published recently in the *Times Higher Education Supplement*. They show that, statistically, the most successful academics tend to be married men; when divorced, separated or widowed men; followed by single men; single

Professor Born in Newcastle

A Newcastle-born doctor with an international reputation for his research into hypertension took up duties at the University as Foundation Professor of Medicine.

He is Dr. Trefor Morgan who was educated at Newcastle Boys' High and the University of Sydney.

He graduated from the University of Sydney with Honours in Medical Science, Medicine and Surgery, and received his Doctorate in Medicine from the same University in 1972.

He was a Resident and Registrar at Royal Prince Alfred Hospital from 1960-1963, and Clinical Superintendent (Medical) of the same Hospital from 1964-1966.

He was a Visiting Scientist at the National Institutes of Health in Bethesda, U.S.A., and in 1969 was Senior Visiting Research Fellow of the Medical Research Council (U.K.). On return to Australia he was Renal Physician at the Princess Alexandra Hospital, Brisbane.

More recently, he was First Assistant in the Department of Medicine

women; divorced, separated or widowed women; and, finally, married women. There is, moreover, a huge difference between the two extremes: over the age of 50, for example, 76% of married male academics have become Senior Lecturers or Professors; only 44% of single men have done so; and only 20% of married women.

Dr. Blackstone's conclusion is that marital status affects both men's and women's career prospects, but whereas marriage for a man tends to enhance his chances of promotion, marriage for a woman tends to inhibit promotion prospects in relation to senior posts.

The day will certainly come when University women can say they are equal to men in respect of their rights and expectations, but it has not arrived yet. Since the day when Eve handed Adam the fruit of the tree of knowledge, most of the traffic seems to have been the other way; perhaps the time has come to reverse the process once again.

at the Repatriation and Austin Hospitals in Victoria, which are teaching hospitals of the University of Melbourne.

He has an international reputation for his research into the causation, investigation and treatment of hypertension, with particular emphasis on the role of the kidney and the importance of the distribution and control of sodium within the body.

He has wide clinical experience and is a Fellow of the Royal Australasian College of Physicians.

He has been involved in the teaching of undergraduates and graduates for the past 18 years; in many of his appointments he has been responsible for the development of teaching programmes, and widely recognised as an excellent educator.

One of the important aspects of the teaching with which he has been associated has been an attempt to integrate medical students into the team of medical personnel caring for patients. Another aspect has been an attempt to devise a system of health



Professor Morgan.

care delivery in which patient care, undergraduate teaching, postgraduate teaching and research are all integrated leading to benefits to all.

He delivered the University's first Inaugural Lecture on April 27, 1977.

GRADUATES SHOULD LEND AN EAR TO OUR SONG

Many programmes being broadcast by the University's radio station 2NUR-FM since it went to air with regular daily broadcasts on March 17 should be of particular interest to graduates of the University.

For instance two magazine programmes deal with cultural happenings and events of interest — plays, music, art, etc. are all covered. The programmes are broadcast each successive Thursday evening commencing at 9 p.m.

Later in 1978 the station will transmit refresher courses for professional people living in the Hunter Valley.

2NUR-FM is the Newcastle and Hunter Region's first high-fidelity radio station. Broadcasts are received on a frequency of 103.9 MHz throughout Newcastle, the Coalfields and the Lower Hunter on all radios with frequency modulation facilities.

In the first phase of transmission, which will last for about two months beginning in March, the main content

of the programmes will be music. As well as classical music there will be music which is neglected by much of the local media — jazz, middle-of-the-road and so on. Fine music will be broadcast each weeknight from 7.30 p.m. to 9 p.m. and popular music from 9.30 to 10.30 p.m.

Ethnic programmes will cater for the eight largest ethnic communities in Newcastle who will be given half an hour each weeknight commencing at 7 p.m.

The intention is to have the station accessible to everybody living from Newcastle to Muswellbrook and from Nelson Bay to Wyong. In addition the type of signal that 2NUR-FM is using can be received on many car radios.

To help the station judge the quality of reception people have been urged to report how they are hearing the broadcasts.

To set up the station on campus, new broadcasting studios were built on the top floor of the Mathematics Building; excellent equipment which would

give the best results was ordered from overseas countries (the transmitter from France, the tape recorders from the United States, other items from Japan).

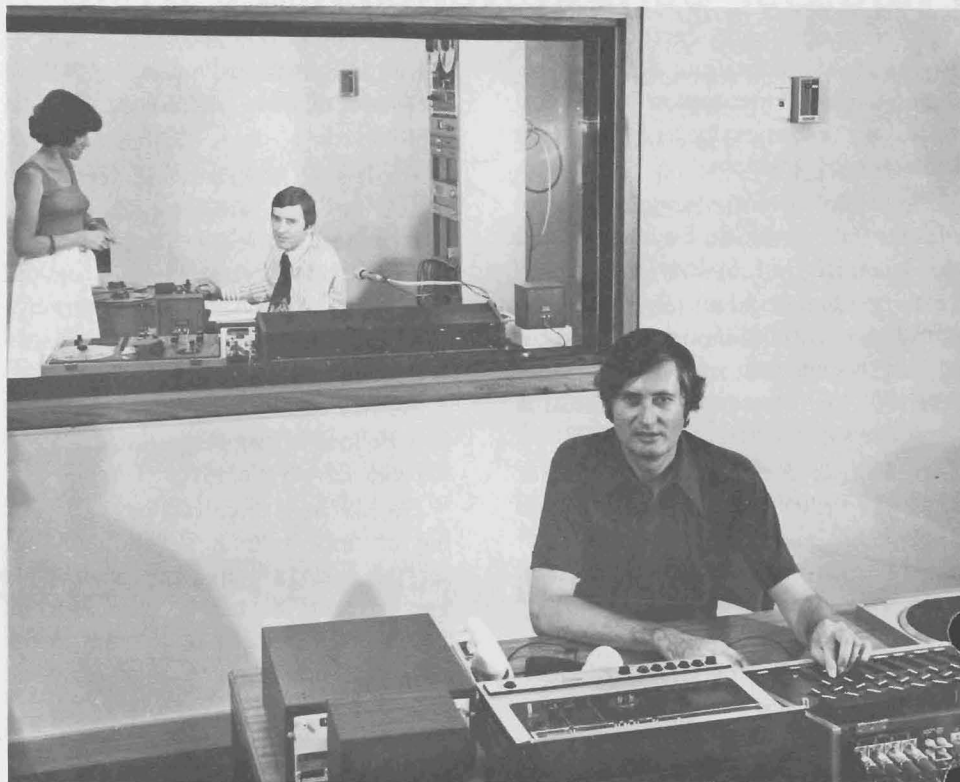
Members of staff attached to the station have worked extensively in radio.

John Hill, the Station Manager, has worked for the ABC as a radio producer and for the BBC. He has also worked in association with NBN Channel 3 as a producer of several television series. Martin Hadlow, the Assistant Manager, has worked for the Armidale station, 2ARM-FM, and has had broadcasting experience in the U.K., Papua New Guinea, New Zealand and Hong Kong.

Mr. Hill says that he wishes to get some of the best radio programmes that are available from overseas countries. He has obtained material from the BBC — programmes such as *The World of Books*, *Science Magazine* and *Profile*; in addition tapes are arriving from The Netherlands, Sweden, Japan and France. He also said that the station had started negotiations with Pacifica, of California, which many people regarded as the point of origin of some of the best creative radio being made in America. 2NUR-FM expects to be the first station to receive Pacifica programmes in New South Wales.

In the early future live interviews, discussions and commentaries on the news will be included. One special feature might be a phone-in programme which will allow members of the public to put questions to people in the news.

Later in 1978 full details of programmes will be published in a monthly programme guide. Initially, however programmes are printed in the Newcastle Morning Herald as well as the University News.



The staff of Radio 2NUR-FM — from left, Mrs. Lyn Dowling, the Assistant Manager, Mr. Martin Hadlow and the Manager, Mr. John Hill.

BY-LAW CHANGES

The first series of amendments to the By-laws made by the Council following its consideration of the Report of the Committee on University Government were recently approved by the Governor and have now come into effect.

Some amendments relate to participation in meetings, Faculty Boards, Departments and Deans and other Faculty officers but of particular interest to members of Convocation are those relating to the election of Council members. In future these will be governed by new procedures under which:

- (a) the practice of placing an asterisk beside the name of a retiring candidate is to be discontinued;
- (b) the order of names of candidates on ballot papers will be determined by lot; and
- (c) candidates in the election of members by Convocation are to be given an opportunity to provide for distribution to voters a passport-size photograph of themselves together with a statement of not more than 150 words relating to their candidature.

The first elections under these new procedures will be the biennial ones due in the middle of this year.