This second edition of the University of Wollongong quarterly is a Graduation edition and as such concentrates on pictorial coverage of the 1981 Graduation ceremonies. The first edition of Unity was well received within the University and the community as was shown by the excellent response to the questionnaire sent with the journal. In future Unity will aim to use as many of the ideas of readers as possible. Letters to the Editor are always welcome and will be published if desired.

*The name UNITY symbolises the University of Wollongong’s special efforts to build strong ties between the University and the community.

The University of Wollongong
Northfields Avenue,
Wollongong, N.S.W. Australia.

Arms of the University: Incorporates the blue of the sea, the gold of the sand and the red of the Illawarra Flame Tree with the open book often used by educational institutions.
A CONSTELLATION OF ANARCHIES'

For University Secretary Mr. Challice Moldrich, 1981 has already proved to be a year of minor revolution and there will be more changes to come as the University of Wollongong's Central Administration settles down into a new pattern of living.

The changes began in March when the Vice-Chancellor announced that the University had re-organised its Central Administration after considering advice from external consultants.

A single administrative division was established with University Secretary, Mr. Moldrich at its head. He became responsible to the Vice-Chancellor for the management, oversight and direction of the entire administration.

"The changes are essentially at obtaining a more efficient administration, sympathetic to and supportive of academic enterprise," Mr. Moldrich said.

Mr. Moldrich said that from that basic premise flowed the rearrangement of functions in such a way as to reflect the University's priorities and needs. He said that the functions of student placement, public relations, academic and general services would be some of the main supportive elements of the University's main objective of the attraction and retention of students.

Another aim was the effective management of the University financial resources through the provision of adequate information.

A third aim was that of greater interaction between the administrative staff and their academic colleagues. In part it was hoped this would be achieved by a more significant academic presence in specific areas of administration.

Mr. Moldrich said he saw the University primarily through the eyes of Cardinal Newman, as a place set for learning.

"But I also see the University through the eyes of another writer, whose name I can't recall but whose comment, that a University was 'a constellation of anarchies', made a lasting impression on my thinking," he said.

"I see the University as a living, yet fractured, whole and that is the context of our administrative support," Mr. Moldrich said support for the academic enterprise included support for students by focusing on existing and prospective students in their University experience.

"The Administration will support students by seeking new ways to improve their University life," he said.

The new Administrative organisation, under one person, replaces a system where Central Administration was divided into four sections each under a senior officer.

Mr. Moldrich said the formal dissolution of the divisions as they existed was only the first step in providing a more streamlined operation for the areas concerned. He intended to develop that operation through reviews of existing procedures.
A New Community Service from Psychology Department

The Department of Psychology at the University of Wollongong began a new service to the Wollongong community in April this year.

The Psychological Services Unit offers a wide range of services for individuals, groups and organisations.

Chairman of the Department of Psychology, Professor Linda Viney said the unit was intended to add to, and not duplicate, the psychological services already available to clients in the community. Some new services would also be developed.

"While we hope to meet some important community needs through this unit, the impetus for its setting up has come from our need as a teaching department of the University, to provide opportunities for training and supervision of our graduate students in professional psychology," Professor Viney said.

"Clients should know then, that they will be, in some cases, consulting with psychologists in training, but these trainees will be supervised by qualified and experienced staff."

Initially the Unit would be establishing clinical and counselling services for adults and adolescents who may be self-referred or referred by others. Services would include psychological assessment and a range of counselling and clinical services.

"We are prepared for working with clients who are anxious, depressed or frustrated, clients experiencing life crises, parent problems, as well as people seeking personal growth," Professor Viney said.

The Unit was charging a small fee for each consultation to cover some of the expenses involved but there was provision to accommodate a few clients who could not afford any payment.

Unit staff are available for initial consultations on Thursday mornings from 9.30 to 12.30 p.m. Clients can simply walk in or telephone on 28 2995.

Members of the Department of Psychology staff who are involved in the Unit are, in alphabetical order, Neil Adams Ph.D., Allen Barlow B.A. (Hons.), Yvonne Benjamin B.A. (Hons.), Doug Conford M.S.C., John deWet B.A. (Hons.), Damien Hampton B.A. (Hons.), Jill Hiddlestone B.A. (Hons.), John Morris Ed. D., Lynne Bozan and Linda Viney, Ph.D.

Chairman of the Department of Psychology, Professor Linda Viney. Professor Viney is also on the staff of the new Psychological Services Unit run by the Department for the community.
Rationalizing our Resources

By Professor Alan Cook

Changing balances within the world mean that geologists (and mining engineers) are rapidly acquiring a key role in Australia's future.

Chairman of the Department of Geology Professor Alan Cook

Resources boom", "resource based future" - these are some of the current catch-cries. More than most such cries, they are probably true, and it is desirable to remember that Australia's past was also resource based. The emphasis has undoubtedly changed, however, and in complex ways. Western countries are looking to Australia with its large land area and relatively small population to continue and enlarge its role as a source of metallic ores and more especially of energypedrelated commodities - both the fuels themselves, coal, liquidfied natural gas and uranium, and energy intensive products such as aluminium metal.

This development is rationalized on two levels: a need to help energy deficient countries, and as a way of "developing" Australia, which on translation appears to mean "higher standard of living in Australia". Even without external pressures and opportunities, there would probably be a resources boom in Australia because of the rise in international oil prices and the probable difficulty of obtaining assured supplies of oil at any price.

As a result the nine largest companies listed on the Australian stock exchange (based on market capitalization) are basically mining companies in terms of their current profits.

Exploration for minerals and fuels is a highly technical business calling for skills based around geology and geophysics. Exploration is both expensive and risky (a single oil exploration well on the Exmouth Plateau off the Western Australian coast can cost over $10 million, but the rewards of successful exploration have been high. The anticipation of high rewards is a motivating factor behind the present resources boom. Geologists are also in demand in the post-discovery phases of "development" and "mining" (or "production") in the case of oil and natural gas.

The number of graduates in geology in 1979 appears to have been between 200 and 250. At times this year the rate of vacancies advertised has been running at 2,000 per year. Clearly many of these vacancies arise from the transfer to other companies of geologists already in employment. Equally, many positions are filled without being advertised. Thus both the statistics and the number of companies pounding on the doors of Professors of Geology in search of recruits, make it clear that there is a very real and, in national terms, a serious shortage of trained geologists.

This has resulted in very attractive salaries being offered by industry (it has been reported that annual salaries for experienced geophysicists have risen by $1,000 per month for extensive periods of 1980. Few Australian graduates have gone on to full-time studies for higher degrees in the last year - the financial rewards of the job market have been too great for many to embark on a higher degree with a pittance of a scholarship.

Will it last, or is it going to be, like the late sixties and early seventies boom, followed by a disastrous bust? Geologists are better at unravelling the past than the future but there are clear indications of basic differences which make the earlier boom a poor parallel. The late sixties and early seventies boom was based on very few real indications of a changed demand; mainly a high nickel price which proved to be short-lived.

The present boom certainly has its base cause in OPEC-manipulated rises in the price of oil. The chances of oil supply exceeding demand sufficiently to cause a significant drop in prices is very small. Coal prices are about a third of the energy-equivalent amount of oil and seem likely to rise. Higher prices for energy seem likely to cut the rate of growth demand but unlikely to lower demand over any significant period.

The causes of the boom seem likely to remain: what of the response? The best guess seems to be a plateau of activity but at a high level. The present desperate shortage is due in large part to the low recruitment rates of geologists to industry which characterised most of the seventies. Companies (and hopefully Governments) are currently learning the lesson that sudden surges of activity followed by lower levels of activity are counter-productive. The lead times for projects means that the time to undertake exploration for current projects was 5 years ago during the slump. The companies with foresight are now deservedly reaping their rewards.

Whilst little of the future is certain, a continuing demand for geologists seems inevitable as companies and nations search for more of the non-renewable resources yet to be found in the earth's crust. Hopefully geologists will also play a pivotal role in leading our society towards a way of life which is indefinitely sustainable, by defining the extent of resources and pointing to ways in which our resource use must change. Yesterday's merchants of gloom and scarcity have become today's realists.
A vital Centre for ethnic affairs in the Illawarra

The centre for Multicultural Studies, now located in a University house in Porter Street, North Wollongong, is rapidly becoming a centre for research and a reservoir of knowledge about ethnic and cultural diversity in the Illawarra and in Australia.

Centre director, Dr. Andrew Jakubowicz, said the University of Wollongong had been the first University to give such a centre a charter for action research. The results were already having a significant effect on the lives of ethnic communities in the Illawarra.

"There are three components of the Centre's charter - action research, community education and community resource work"; Dr. Jakubowicz stated.

Research projects were selected primarily on the basis of helping to meet community needs. One such project, stage one of which had just been completed, involved working with the ethnic communities in the Port Kembla area to create an interchange between the community and school system. The outcome of the first stage was the appointment of an ethnic community worker to the Port Kembla Community of Schools, who will continue to be supported by Centre staff.

A second major area of Centre research involves the field of migrants and their work environment. Research was being carried out on three levels - social relations, work and education, and social policy which involved a study of the politics of ethnicity in Australia and related issues.

"The levels of research in this project are all obviously closely related but special themes have been singled out as being particularly vital. In education, we are looking at the problems of learning English, as part of an analysis of the way education relates to the needs of a working class community"; Dr. Jakubowicz said.

In this area of community education, the Commonwealth Department of Immigration and Ethnic Affairs has given the Centre a contract to examine the adult migrant education service in the region.

Projects in the community resource work area included a report on migrants' occupational health and safety for the Social Welfare Research Centre, funded by the Federal Department of Social Security. The report, now in its second printing, was subsequently picked up by the ACTU and distributed nationally. A current project being carried out jointly with researchers in Sociology and Industrial Relations was looking at the experience of industrial accidents amongst migrant workers.

Other projects include a compilation of the oral history of migrant and Australian Workers in the Illawarra during the past 70 years, an invitation from a group of trade unions to examine the needs of migrant workers and advise on strategies to improve their participation in unions and a policy analysis of immigration and social welfare in Australia since 1947.

Research funding totalling nearly $70,000 has been given to the Centre for 1981, a figure which matches the University's budget for the Centre.

"We have a full programme going and we're still only just beginning to scratch the surface of work that needs to be done"; Dr. Jakubowicz said.

"Fortunately, we're now in a position to make a useful contribution to understanding the experience of ethnic Australians, and to support them in taking greater control over their lives - at work, in education, in social welfare."
Right: A class in progress at the Multicultural Studies Centre.

Below: The new premises of the Multicultural Studies Centre in Porter Street, North Wollongong.
A total of 278 degrees were conferred at three graduation ceremonies held at the University of Wollongong on Thursday, 7th and Friday, 8th May, 1981. Over 240 graduands took out Bachelor degrees in Arts, Commerce, Engineering, Mathematics, Metallurgy, and Science. The degree of Doctor of Philosophy was conferred upon eight graduates representing six of the University's academic departments.

(Above) Graduation 1981 and the opening procession is led in by Mr. Evan Foster, Mr. Bob Natalenko and Mr. Trevor Cuthbertson, members of the staff of the University of Wollongong.

A highlight of the two ceremonial days was the conferring of the honorary degree of Doctor of Letters upon the University's Vice-Chancellor, Professor Michael Birt, C.B.E.

Professor Birt, a noted biochemist, became Vice-Chancellor when the University of Wollongong gained its autonomy on 1st January, 1975. He leaves Wollongong in early August to take up the post of Vice-Chancellor at the University of New South Wales.

The honorary degree was conferred in recognition of Professor Birt's outstanding service to the University, and to higher education and learning throughout Australia.

The University was also pleased to have attracted three other distinguished Australians to deliver this year's Occasional Addresses.

At Thursday afternoon's ceremony for the conferring of the degrees of Commerce, Engineering, and Metallurgy, the guest speaker was Mr. Justice Michael Kirby, Chairman of the Australian Law Reform Commission.

Professor Leonie Kramer, Professor of Australian Literature at the University of Sydney, and a leading commentator on educational matters addressed the Friday morning ceremony at which graduands received degrees in Arts and Education.

Graduands in Arts, Mathematics, and Science were honoured by the presence of Dr. Paul Wild, Chairman of the Commonwealth Scientific and Industrial Research Organisation, at the Friday afternoon ceremony.
Graduation 1981, the official party...they are (from left) Mr. Justice Michael Kirby beginning his Occasional Address, Associate Professor Bill Uplold, Professor Geoff Brinson, Mr. Robin Horne, Emeritus Professor Michael Birt (Vice Chancellor), Mr. John Steinkes, Professor Sam Marshall, The Hon. Mr. Justice R.M. Hope (Chancellor), Lord Mayor Alderman Frank Arkell, Ms. Heather Nash, Professor Alex Clarke (Deputy Vice Chancellor), Mr. Edgar Beale, Mr. Chalice Moldrich and Mr. Bill Parnell.

Settled and ready to begin...members of the staff of the University gather for the ceremony. They are (from left, first row) Dr. Max Lowrey, Dr. Michael Boyd, Dr. Donald Pearson-Kirk, Professor John Ryan, Professor Brian Smith, Dr. A. Hargraves, Mr. Kevin Turnbull (second row), Dr. Peter Van Der Weff, Ms Lyn Edwards, (third row) Mr. Bob Natalenko and (fourth row) Mr. Evan Foster and Mr. Barry Lake.
Graduation '81

(Above)
Capturing the spirit of graduation - it was a Photographer’s field day on May 7 or May 8 as graduates and University officials dressed in colourful robes gathered on the University lawns after graduation ceremonies.

(Right)
Bernard Paul O’Connor receives his Bachelor of Civil Engineering degree with honours at the University of Wollongong graduation ceremony held on May 7. For Bernard it was a second degree, his first, Bachelor of Surveying from the University of N.S.W.

(Right)
A happy day for all the family... Robert Charles Lundie receives after graduation on May 7, he is congratulated by his wife Judy, daughter June and son Terry. Robert received his Bachelor of Engineering degree (Civil Engineering) with honours.

(Far Right)
Congratulations from the community... Wollongong journalists and public figure Miss Ethel Hayton presents her compliments to the Vice Chancellor Emeritus Professor L. Michael but after he received his Honorary Doctor of Letters degree.

(Right)
Trevor Gordon Maher, the University of Wollongong’s first Aboriginal student to graduate. Trevor received his Bachelor of Arts degree on May 6.
Members of his family pictured were there to share his achievement.

(Far Right)
Mrs. K. Pardy and Ms. Kathryn Orton congratulate Gary Griffith on his B.A. with honours.
Russell Lee Affleck receives congratulations from colleagues at work after receiving his Bachelor of Commerce degree on May 7, 1981. Russell is a member of the Central Administration staff at the University of Wollongong. With him are (from left) Mr. Ted Limond, Mrs Betty Limond, Ms. Jane Provan and Mr. John Tubman.

Edward John Hinge with his wife Joanne and Son Matthew enjoyed a stroll in the University grounds after the graduation ceremony on May 7. Edward received his Bachelor of Commerce degree.

William Ernest Eggers and his wife Gay share a happy graduation day for William on May 7. William received his Bachelor of Commerce degree.

Lee Alan Mathieson is congratulated by members of his family after receiving his Bachelor of Engineering degree (Mechanical Engineering) on Thursday, May 7, 1981. Lee was one of seven students from the Department of Mechanical Engineering to receive his bachelor's degree this year.

Members of the official party gathered on the University lawns after graduation ceremony on May 8.

Signed, sealed and delivered... Bachelor of Arts graduate Michael George Cassoff proudly displays his degree after the ceremony on May 8.
On the occasion of the admission of Lindsay Michael Birt to the Degree of Doctor of Letters, Honoris Causa, on the 8th May, 1981, Professor Lauchlan Chipman delivered a citation, the final part of which is quoted....
...within this University, Michael Birt has continually supported the academic departments in a pursuit of excellence in their research, scholarship, teaching and other creative work. He has recognised the need to give our graduates the ability not merely to respond to but, more importantly, to direct the forces of social and technological change in the coming decades. In encouraging better co-operation between departments and the lowering of disciplinary barriers, he has constantly sought to provide for the cross-fertilisation of ideas and the expansion of knowledge and skills. In the University's administration, he has promoted greater efficiency and effectiveness and yet encouraged, by the example of his own style, the personal approach that prevents an administration from becoming a bureaucracy.

He is also a foundation member of The Friends of the University, an organisation which seeks to foster the potential of the University to develop mutually helpful and creative relationships with many segments of society.

Under Professor Birt's leadership, this University has grown from a place that lacked confidence in itself to a very healthy institution. The University looks to the future with courage and commitment and is able, unlike many of its fellows, to attract growing numbers of students at both the undergraduate and postgraduate levels. In this last year, some have been chanting loudly that universities would finally succumb to economic pressures and see their potential students turning away to look for financial security and promises of ready employment elsewhere. It is a testament to Michael Birt's faith both in university education and in this University that, in 1981, the University of Wollongong saw its enrolment numbers surpass previous records. At the same time, the Graduate Careers Council of Australia was completing its report for 1980 and the published figures show that, for the second consecutive year, the University of Wollongong has recorded the highest rate for the employment of graduates amongst all seven universities in New South Wales and the Australian Capital Territory. It has the third best graduate employment rate of Australia's nineteen universities.

The University has now ceased speaking about a quest for identity and has affirmed its major role and functions. The statement of that role reads, in part: "The University has a primary responsibility for the cultivation of the intellect through scholarship, teaching and research, as part of the international community of scholars and universities". In that statement are enshrined the ideas and philosophy of the foundation Vice-Chancellor.

The University is honouring today Michael Birt's contribution to this University through his leadership, keen intelligence, initiative, tolerance and hard work. We honour him for his unrelenting faith in an idea of university education and for the propagation of that faith in so many areas. We are grateful for his eloquence and persistence as an advocate of the University of Wollongong. We acclaim him as a man of science whose thoughts and ideas have found expression in written and spoken words of great clarity and strength.

When John Henry Newman summed up the strenuous demands placed upon the leader of a university community, he remarked: "I ought above all to be twenty years younger and take it up as the work of my life". We are thankful that Michael Birt was twenty years younger and is able to take up the cause of university education as the work of his life.

Chancellor, it is with pleasure and gratitude that I present to you, on behalf of the University, Lindsay Michael Birt, a man who has given great service to this University as its foundation Vice-Chancellor and who has articulated and supported the cause of university education in Australia, for admission to the degree of Doctor of Letters Honoris Causa.

"
A spectrum of research including the common cold

Research on topics closely concerning the modern community is flourishing in the Department of History and Philosophy of Science which currently has seven (the second largest number in the University departments) research assistants working alongside the 5½ academic staff.

The research assistants are Shantha Liyanage, a science graduate (Botany, Chemistry, Zoology), Beth Newland, an arts graduate (History, Sociology), Mary Cawte, science (Botany), Sharon Carmichael, arts (Journalism, Sociology), Graham Larcombe, economics and urban studies, Romaine Rutham, arts (Politics and Philosophy), whose research project into employment prospects in the Hawarara in the 1980s was the subject of an article in the last issue of Unity) and Fritz Buchler, arts (Social and Economic European History).

Mr. Liyanage, who is also currently working on his Ph.D., is examining the present state of university research in Australia. His research has required that he gather information from every department of every Australian university - an enormous and painstaking task which he has nearly completed. From his data he will assess the growth rate of research in universities and the contributions research makes to the community.

Beth Newland’s research centres on the sociology of the scientific controversy over Vitamin C megatherapy. She is looking mainly at two aspects of Vitamin C megatherapy - the common cold and cancer. The project involves comparing the findings of the medical profession and its methods of presentation as compared to work by the National Health bodies, and also looking for definitive answers to the problem. Currently, evidence is being presented to the authorities for and against legislation to control the sale of Vitamin C.

Mary Cawte is looking at the history and social implications of genetics in Australia - a field in which not much work was done until comparatively recently. The research requires delving into the early history of agricultural science in Australia and seeing how genetics was received and spread and how the scientific and medical communities were affected.

Sharon Carmichael’s research project has been funded by the Department of Science and Technology and aims to “de-mystify science” in the area of private company research. The work involves comparing the amount of money put into research by companies to the feedback gained and finding ways to measure the output of research.

Ms. Carmichael is also looking at the intensity of technology in the industrial sector. Her findings will be used by the Department of Science and Technology to help decide which research projects it can most effectively support.

Graham Larcombe is researching the political economy of electricity generation in Australia. The study relates the rapid growth of the power industry to the demand to locate multinational energy-intensive industries in Australia (e.g. aluminium). Particular attention is given to the role of Federal and State Governments in expanding the power industry, and analysing the financial, environmental, and political implications of these new developments.

Fritz Buchler is working with Dr. John Schuster on a biography of French Philosopher Rene Descartes. Mr. Buchler is doing research in city libraries on the social, religious and political situations in France generally in the 1620s and 1630s. His proficiency in the French, Dutch and German languages has enabled him to provide very valuable material for an innovative biographical approach.
Microcomputer system creates international interest

Flicking a switch in the home, office or factory is one of the easiest tasks man needs to perform to gain instant power - but few people realise the difficulties involved in providing and refining the electrical power system in our society without producing enormous amounts of pollution in the form of ash.

At the University of Wollongong's Department of Electrical Engineering a team of researchers is one of the many groups involved in trying to reduce pollution caused by power systems. Doctors K.J. McLean, T.S. Ng, Z. Herceg and Mr. Z. Rana have devised a new microcomputer system and strategy for control of electrostatic precipitators.

One of the most efficient and economical means of removing minute waste particles from effluent gases at large coal-fired installations, electrostatic precipitators filters are extensively used on boilers at electrical generating (power) stations.

The most efficient operating conditions occur when the voltages are maintained at or near their maximum value but the precipitator performance is adversely affected by the presence of fly ash - the result of using Australian coals which are low in sulphur.

The present control systems of precipitators have not been allowing for a variation of voltages which assumes that conditions remain unchanged for all operating modes, variations in the boiler and the inevitable coal variations.

"With the recent development of reliable optical monitors and the availability of relatively cheap microcomputers, we have the opportunity now to develop a new control philosophy for electrostatic precipitators," researcher Dr. I. McLean said.

The research programme has been in three parts - the first developed the computer control system, the second developed a diagnostic element within the system that could vary the voltage when necessary to reduce ash generation and the third part took the whole process one step further by developing an adaptive controller within the system that continuously varied the process based on the dust monitor output and the voltage, current and spark rate feedback from the control unit of each section of the precipitator.

If it sounds complicated, it is - which is food for thought every time anyone flicks that switch and expects instant, efficient power.

This research project was financially and technically supported by the Electricity Commission of Australia and the National Energy Research, Development and Demonstration Programme administered by the Australian Commonwealth Department of National Development and Energy.

At present, the new system devised by the team has been installed and is being tested in one pass of an electrostatic precipitator at Munnaraha Power Station, N.S.W. The research has attracted international interest and Dr. McLean has been invited to read a paper on this and associated work at the next international conference organised by the United States Environmental Protection Agency which will be held in Florida, U.S.A.

Forthcoming conference devoted to “Mathematics in Industry”

“Mathematics in Industry” will be one of the themes of the Australian Mathematical Society Applied Mathematics Conference to be held at Bundanoon in February 1982.

The conference is being organised by the Department of Mathematics at the University of Wollongong and representatives from industry in the Wollongong area.

Designed to stimulate interest and discussion on new research areas both of a scientific nature as well as those arising from industry and the business community, the conference will be attended by scientists, engineers, mathematicians and others, all of whom are interested in applying mathematical theory to problems of practical interest.

Every Australian tertiary education institution will be represented and there will be representation from major research establishments in Australia such as CSIRO, the Atomic Energy Commission, Weapons Systems Research Laboratory and Aeronautical Research Laboratories.

Conference director, Dr. James Hill said the conference was seeking input from all sections of the community which could put forward problems of interest to mathematicians oriented scientists.

"The conference will also be an opportunity for those employers of mathematically trained personnel to talk with and influence the teachers of future applied mathematicians. We wish to encourage the attendance of industry and business representatives," Dr. Hill said.
Steel, a quiet revolution

In the last decade there has been a quiet revolution in the steel industry which has been stimulated by rapidly rising costs of equipment, labour and energy, and by increasing competition from other materials. These pressures have resulted in the widespread adoption of "continuous" processing methods to save energy and operating costs and also to improve product uniformity and quality.

Another notable change has been the development of various types of high strength, low alloy (HSLA) steels which retain, to a large extent, the excellent formability and weldability of conventional low carbon structural steels, but which have significantly increased strength. This improvement has been effected by a combination of controlled rolling and changes in steel chemistry which involve the addition of strong carbide formers such as niobium, vanadium or titanium in concentrations typically of about 0.05 wt%. Since the strength per unit weight is increased over conventional steels, smaller sections and thinner gauges can be used in appreciations such as frames for buildings and bridges, pressure vessels, pipelines and automobile components. Since 1974 production of HSLA steels in the western world has increased five times, and substantive replacement of conventional structural steels is likely before the end of the century.

In keeping with the worldwide trend towards HSLA steels BHP has successfully developed and produced various pipeline steels and the structural grades XTRAFORM 360 and 480. These steels are becoming widely accepted by Australian manufacturing industry, and especially by the automobile industry as a means of significant weight savings in motor vehicles.

In a quest for even better properties and lower production costs, experimentation with HSLA steels is continuing and, in addition to their own developmental work, Australian Iron and Steel Pty. Ltd. is supporting research work at the Department of Metallurgy through a post graduate scholarship.

Dr. Tara Chandra and Bruce Dunne are the staff members directly involved in this research programme which is aimed at improving the understanding of the crucial structural changes that occur during processing, and that control the final properties of the hot-rolled steel.

Dr. Chandra has been active in hot deformation studies of HSLA steels for several years, and in 1978/9 he spent a study leave at McGill University in Canada, working with a leading research group under the direction of Prof. J.J. Jones. Dr. Dunne has also had several years of experience in this field, and during a study leave at the University of Cambridge in 1977-78 he undertook structural investigations of vanadium steels with the alloy steels group, headed by Prof. R.W.K. Honeycombe.

Dr. Chandra and Dunne, together with Mr. Ross Smith, recently submitted a paper on grain refinement in a vanadium-bearing HSLA steel to the Second Riso International Conference on Metallurgy and Materials Science to be held in September 1981 in Denmark. This paper will be presented by Dr. Chandra who will be overseas on study leave which continues his work on HSLA steels, both at McGill University and at Cornell University in the U.S.A.

The work described in the conference paper is based on an Honours project investigation by Mr. Ross Smith during 1980, and is part of an overall programme of work on HSLA steels being pursued by Mr. Smith with the financial assistance of a Commonwealth Post-Graduate Award.

Mr. Malcolm Atkinson, a Senior Lecturer in the Department of Metallurgy, also has an involvement in the HSLA steel work and is a co-applicant with Chandra and Dunne for ARGC support for equipment to refine and improve facilities for high temperature testing which is designed to simulate thermomechanical processing cycles of commercial HSLA steels. Mr. Atkinson's interest stems from a background of industrial research at the Steel Company of Wales and wide experience and knowledge of mechanical testing.

An active research group is in the process of being established in the Department of Metallurgy which has the potential to make important contributions in an area of significant industrial interest.

Dr. Tara Chandra (left) and Bruce Dunne join "The quiet revolution"
"You might as well talk to yourself"

It was comedy again from Theatre South last month with Alan Ayckbourn's funniest play, "You Might As Well Talk To Yourself". Originally titled "Confusions", the play was in four parts, each illustrating a situation where lack of communication makes for chaotic comedy.

Firstly, a "mother figure" who treated everyone in sight as her own "blooming kids", then a charity fête that turned out to be anything but a vicarage tea-party, followed by an intimate dinner for two with disaster for four as the last course, and finally a scene in a park where no one talks to anyone...

Members of the cast, which included Faye Montgomery, Katherine Thomson, Paul Hunt, Gordon Streek and Geoff Morrell, all played multiple roles in this most original piece of theatre which has been enjoyed by audiences internationally. The play was directed by Des Davis.

Theatre South obtained Alan Ayckbourn's permission to add a musical note to the programme. David Vance, from the University of Wollongong, was commissioned to write the music and Carmel Pass wrote additional lyrics.

Other plays written by Alan Ayckbourn include "Relatively Speaking," "How The Other Half Loves," "Bedroom Farce" and the "Norman Conquest" series on A.B.C television last year which familiarised a large proportion of Australians with his modern "comedy of manners" style.

Next in Theatre South's 1981 season will be "Playboy of the Western World", a classic play about the Irish. Written by J.M. Synge. The writer called his play "a comedy, an extravaganza", but riots broke out in Dublin when it was first performed there in 1907.

It was called a "libel on Irish peasant girlhood" and the Irish critics were enraged. Critical taste, and a love for "a little bit of the Irish" has quelled the riots, and the play is now regarded as one of the major comedies of the 20th century and a major contribution to Irish literature. The play is on the list of Higher School Certificate texts for this year. Performance dates are July 9, 10, 11, 15, 16, 18, 22, 23, 24, 25.
Members of the Friends Organization are coming in from all sections of the community; the professions, the unions, industry, commerce, agriculture, the churches, graduates, parents, students and university staff are all represented to some degree in the Friends.

The Friends organization is growing at a rate which should bring the membership up to the target by July this year, according to the Executive Officer, Mr. Giles Pickford, Lord Mayor. Alderman Frank Arkell, Chairman of the Membership Committee, said that his Committee had begun its task of learning about the University. Members would shortly be visiting the University to talk to staff in their special areas of interest.

"The aim of the Membership Committee", he said, "is to learn about the University and its staff, courses and research; and to then create situations where this knowledge can be shared with their own communities."

Alderman Keith Phipps, RA, Dip.Ed (W'gong) is currently working on creating a group of the University's graduates within the Friends. "One of our aims", he said, "is to make sure that every graduate of the University of Wollongong has a CD."

"Wollongong already heads the State of New South Wales in the percentage of its graduates who are employed", he said, "Our aim is to keep it there and even improve on the present situation."

The other members of the Committee are looking at ways of involving their own communities. They are:

- Dr. Sultan Aly - Ethnic Communities Council
- Mrs. Geraldine Brown - Aboriginal Community
- Miss Ethel Hayton, MBE - Original Founders of the Wollongong University College
- Mr. Don Reggie, Heggie's Transport Pty. Ltd.
- Mrs. Liz Hilton, Deputy Warden of International House, University of Wollongong
- Mr. John Hogan, Vice-President, Miners' Federation
- Mr. John O'Donnell, Catholic Community
- Alderman Keith Phipps, Graduates of the University of Wollongong
- Mr. Steve Quinn, Organizer, Amalgamated Metal Workers and Shipwrights Union
- Mr. Graham Roberts, President, Federated Ironworkers Union
- Mr. John Roach, Illawarra County Council
- Mr. Author Raymond, District Governor of Lions Clubs
- Mr. John O'Sullivan, Blawarra County Council
- Mr. John O'Donnell, Catholic Community

Unidvice is the research and development arm of the Friends. It is the vehicle through which people can arrange to have problems investigated and research undertaken by University staff. The service is already being used widely. Enquiries should be directed to Mr. Hugh Brandon, telephone (042) 28 2416.

The Friends conducted their first function on 27 March, 1981. A packed audience, many seated on garden furniture which they had squeezed in from the lawn outside, listened to an enthralling mixture of poetry, music and history.

Sydney cellist, David Pereira, performed Peter Sculthorpe's song "Requiem for 'Cello Alone"', and many music lovers afterwards commented that it would have been hard to equal the performance anywhere else in the world.

Local artist Karen Segal gave a fine interpretation of Sculthorpe's violin solo piece "Takadra 1."

The Guest of Honour, Emeritus Professor Russel Ward, gave the Heritage Week address on the subject of "Breaker Morant - the making of an Australian Folk Hero". Ward's down to earth description of the Boer War and the Australian attitudes of the day held everyone's attention.

The whole evening was held together with a selection of poems (James Wieland) and folk songs (John Broonhill) ranging from the songs and ballads of the convict days up to the poetry of Les Murray, Bruce Dawe, and Gwen Harwood.

The Friends agreed afterwards that the atmosphere of the evening had been electrifying and that the programme had everything in it to mark the best in our heritage.

More events of different kinds are being planned for the future.

Mr. J.E. Hargrave, a direct descendant of Lawrence Hargrave, the pioneer aviator of Stanwell Park, has written thanking the University of Wollongong for reconstructing the Hargrave Kites.

The Department of Civil Engineering constructed the kites from blueprints held by the Museum of Applied Arts and Sciences.

They were flown during the Heritage Week celebrations off Stanwell Park Beach, 84 years after the original kites lifted Hargrave into the air, making him the first Australian to fly.

The N.S.W. Hang Gliding championships were held at the same time and place, providing a spectacular that Hargrave would have been proud to see.

Executive Officer of the Friends of the University of Wollongong, Mr. Giles Pickford.
Criteria of Excellence

The University of Wollongong awards the University Medal to students who show outstanding ability during their years at the University.

The Medal is not awarded every year necessarily, but when the University Council judges a student or students to have achieved the high standards required. This year the University awarded Medals to two students.

The University Council determined that the criteria for eligibility were, firstly, that a candidate had been awarded First Class Honours in their degree, secondly that a candidate had achieved an outstanding academic record in the major subjects at all levels and a good academic record in the other subjects for which the candidate had enrolled, thirdly, that the record contained no failures at any level and, fourthly, that the candidate had, normally, a minimum enrolment of three consecutive full-time academic years (or its part-time equivalent) at the University.

Jagoda Cergulsiona, Bachelor of Mathematics, and Roslyn Joy Atkins, Bachelor of Science, were each awarded with 'The University Medal', at this year's graduation.