Dr Richard Heath, Senior Lecturer in Psychology, has received an inaugural research grant from Worksafe Australia to devise an early warning system for the prevention and pre-clinical diagnosis of overuse injury in keyboard operators. The grant of $44,171 for the first year of the project was one of eight awarded to researchers throughout Australia for the investigation of overuse injury in workers.

This is a high priority research area in the Commonwealth Government's research programme in Occupational Health and Safety and an intensive effort is being made to decrease the risk of injury in a variety of occupations. With compensation and insurance expenditure measured in millions of dollars, any improvement in the safety of the workplace for occupations involving rapid repetitive movements will have important economic implications for the community.

Dr Heath's project, which is expected to last three years, involves several related phases. Initially a computer algorithm will be devised which detects a statistically reliable change in the average keypress rate and warns the keyboard operator of any decrease in performance probably due to the onset of fatigue. The computer will then determine a suitable rest period at the conclusion of which the operator may continue data entry.

In the next phase of the project the computer algorithm will be used as a testing device for the evaluation of keypress behaviour in people who have had to discontinue work due to overuse injury and who wish to return to the workplace following medical treatment for their injuries. This programme will also be used as a diagnostic device for people who suspect that they may be suffering from overuse injury.

The computer programme will also be used to evaluate the effect of ergonomic improvements in the workplace on fatigue onset in keyboard operators. Such improvements involve the proper use of ergonomic furniture and use of new keyboard designs such as split keyboards for each hand.

The basic premise of this approach to research on overuse injury is that the techniques of laboratory-based experimental psychology, such as computer-controlled data acquisition and the application of mathematical models, permit the transfer of an extensive knowledge of human motor behaviour to an important problem resulting from the impact of the microcomputer revolution in the workplace. It is expected that the subjective reality of overuse injury will be reflected in performance decrements observed in monitored keyboard operation, and this performance change will constitute an important index of impairment, whether it be primarily physical or 'in the mind'. This technique is not restricted to impairment in keyboard behaviour, but may be adapted for the detection of fatigue in industrial machine operators as well as drivers of motor vehicles.

There are obvious ethical problems in the practical implementation of the performance monitoring program. It will be important to ensure that the computer does not record the details of the operator's typing rate so that the employee is not disadvantaged. One of the challenging problems to be faced in the application of this research effort will be cooperation with employers and unions on the most efficient use of the monitoring software so that productivity can be enhanced without compromising the operator's working conditions.

INSIDE: University's response to budget
The Australian Vice-Chancellors' Committee appreciates the difficulties the Government has faced in framing the 1986-87 Budget. While it would be short-sighted and deleterious for the future of Australia to cut drastically the expenditure on higher education, the AVCC accepts that the universities cannot be entirely cushioned when such a budgetary situation arises. The Vice-Chancellors are therefore pleased that the Government has seen fit to honour its commitment to increase participation. The Vice-Chancellors point out, however, that at many institutions the capacity to take in extra students will be limited by lack of capital development. It is hoped that the $250 administration fee will not inhibit the expected increase in participation.

It is sad that, in these difficult economic times, Australia's support for overseas students has had to be further curtailed by the increase in the amount and application of the Overseas Student Charge. The decision to remove the exemption for university postgraduate award holders will cause problems within individual institutions.

As indicated in the Budget announcement, an administration charge of $250 per student per annum will apply as from 1987. The charge will apply to all students (full-time, part-time and external) apart from a small number - such as pensioners and other beneficiaries - who will be exempt. In the case of holders of TEAS awards, Commonwealth Postgraduate Awards and ABSTUDY Awards, the benefit will be increased by $250 to enable students to pay the charge. Those students experiencing hardship in meeting the charge will be expected to apply for loans under the Special Assistance for Students program introduced in 1985, for which the guidelines will be modified accordingly.

For each institution, the Commonwealth general recurrent grant payable in March will be reduced by an amount equivalent to 90 per cent of the revenue estimated to be derived from the charge, and the remaining 10 per cent will be retained by institutions as a net benefit. While these funds may be used by institutions for their own purposes, the Government sees them primarily as compensation for the reduction in interest earnings arising from the recently-announced change in payment arrangements to institutions from a bi-monthly to a monthly basis.

The Vice-Chancellor has informed Senate that the new payment arrangements will reduce the University's interest earning by some $160,000 per annum. It was to assume, in 1987, some $200 students paying the charge, this would result in an income to the University of $130,000, which still leaves a shortfall of $30,000 arising from the new payment arrangements.

Of the net Government revenue of $58m. resulting from the charge, $18m. is to be used to fund an additional 3000 higher education places at $6000 per place. Allocation of these places will be made by CTEC, and it remains to be seen whether Newcastle will be granted any of these.

It is perhaps worth noting that there have been modest increases in the grants available for ARGs and for NH & MRC Fellowships - from $34.4m to $40m, and from $51.3, to $59m respectively. Equipment funds will rise from $96.9m to $98m, and capital funds (with some new projects) from $76.3m to $80.2m. These are national figures for universities and CAEs, expressed in constant (Dec 1985) dollar terms. In the local context, it is pleasing to note that the extensions to the Auchmuty Library will be able to go ahead as planned.

K. R. Dutton

LETTER

Dear Sir,

I have just resigned as manager of the Newcastle University Co-op Bookshop, from August 28, 1986.

I would like to thank our customers, Union, Bank, Post Office, switchboard, library, garden staff and lecturers for their co-operation during the time that I have been with the Co-op Bookshop.

Anne Worthing
University Co-op Bookshop

Glennie says thank you

To all those who were present at my farewell luncheon, to those who contributed to that beautiful domed clock and the pair of cut-glass vases, to those who sent kind messages and individual presents, and to the photographer who captured the happy event on film, I would like to extend my sincere thanks. My last day as an employee of The University of Newcastle will be truly memorable.
It's good to be home

Professor Rufus Clarke has just returned from an Outside Studies Programme of six months' duration, spent in Britain and the United States. He commented: 

"My Programme had three major aims: to get a better understanding of the nature of health and its determinants, to learn more about the measurement of health, and to become familiar with contemporary thought and activity in health promotion, particularly in the field of cardiovascular health.

"For an anatomist, accustomed to dealing with a very physical and mechanistic version of reality, the objective and elusive nature of health was something of an academic culture shock. I was concerned to develop a view of health which was based on the perceptions of the ordinary citizen, with the health professional's judgements occupying a less prominent position than sometimes occurs. This transpires that health can best be regarded as a constellation of constructs, which are held in different degree and in different proportion by people according to their socio-economic circumstances, their cultural milieu, their age, etc. For example, one such construct identifies health as a resource which enables one to accomplish the activities that one values: for the unskilled worker this may mean being well enough to get to work and to clock in, for the artist it may mean the flow of inspiration to create a masterpiece, and for the aged the ability to get to the shops.

"The determinants of health are equally varied; they range through the individual's genetic endowment, personality, self-esteem and locus of control, the socio-cultural and physical environments, social networks, health behaviours, the health care system and life events.

"These constructs and determinants can be synthesised into a coherent whole by regarding health as one of the manifestations of the ecological balance between the individual and the environment. Adoption of this position casts a new light on health promotion, because it points up the futility of concentrating solely on trying to change the behaviour of individuals e.g. cigarette smoking, without simultaneously modifying the environment within which they are struggling, e.g. the social pressures to smoke. Indeed, it is becoming increasingly clear that major improvements in the health of our society, as in the nineteenth century, are most likely to arise from changes in the environment: at work, in families, at home, and in the communities in which we live.

"The physical environment is crucial to health, but it is over-shadowed in importance by the psychosocial environment. One of the major revelations for me has been that, whilst there is a well-developed health care system to undertake the diagnosis, management and prevention of disease in individuals, and while there are statutory mechanisms designed to protect the physical environment, there is no comparable professional or regulatory system to safeguard the quality of the psychosocial environment. The psychosocial environment is under threat from many quarters - industrial, political, economic, moral - and cleaning up the psychosocial environment may be the outstanding contribution that we could make to the World Health Organisation's goal of Health for All by the Year 2000.

"On a different note, I was saddened by two aspects of life in Britain: the poor morale and dire financial straits in British universities, and the geographical polarisation of well being in the south-east corner of England. Things may not be that rosy here just now, but it's good to be home!"

Rufus Clarke
Faculty of Medicine

Budget Sales Tax Changes

Computer software is currently subject to sales tax. However, avoidance of sales tax has occurred through the device of selling only the discs and tapes on which the computer software is embodied and licensing the consumer to use the software itself. In these arrangements sales tax is payable only on the value of the discs, which is a small fraction of the total price.

The sales tax law is to be amended to ensure that, where computer software is subject to tax, the taxable sale value includes the value of not only the medium (e.g. discs, tapes) on which the software is contained but also the software contained on the medium.

In addition, where access to sounds or visual images is made available under licence, the law is to be amended to ensure that the value of that use is included in the taxable sale value of the carrying medium in which they are marketed.

These changes were applied from midnight August 19, 1986. They do not affect the production of software for "in-house" use (which is not "manufacture of goods" for sales tax purposes), business purchases of computer software, which qualifies for exemption as an aid to manufacture, software produced for export, or licence fees for public use of sound and video recordings.

Scientific Instruments

The exemption for scientific instruments, apparatus, etc., when used in universities and schools is to be removed in so far as it applies to purchases by individuals associated with such educational institutions. These goods will continue to be exempt when purchased by such educational institutions themselves.

ADAB News

Kristen King, a Community Development Officer with ADAB, has been visiting Newcastle regularly to help promote the development of a co-ordinating committee for overseas students in Newcastle. When established, it is expected that the committee will make a significant contribution to the reduction of problems of overseas students trying to settle in.

The next meeting for interested students and staff will be on September 17 in The Auchenmuty Room from 5.30 pm - 6.30 pm. (Refreshments at 5 pm).

Friends of the University

Please note that mail for The President, Secretary and Treasurer of The Friends is handled by the Vice-Chancellor's Secretary.
"...if academic research results are to be exploited for Australia's benefit, we need to develop effective systems to bring results from the work bench to the commercial suppliers."

In 1974, Ray Walker, then Associate Professor in the Department of Chemistry, read an article proposing the development of a copper complex of aspirin as an anti-inflammatory drug. At the time, Dr Walker's interests in co-ordination chemistry had led him into studies involving the *in vivo* co-ordination of trace metals in animals. He wondered whether the folk-lore myth of the benefits of copper bracelets to arthritis sufferers might have some substance, and involve the *in vivo* co-ordination of copper from the bracelet with substances in the body, perhaps with salicylate derived from aspirin taken for pain relief or even from salicylates in the diet.

His first step was to examine rigorously the claim of beneficial effects of copper bracelets to arthritis sufferers. He and Professor Duphne Keats designed and conducted a study involving 240 selected volunteer sufferers. Two groups of volunteers were provided with two bracelets. One bracelet was of copper and the other was copper-free and was made of anodized aluminium of a coppery colour. Volunteers in the groups wore the bracelets, each for a month consecutively, with the order of the bracelets reversed between the groups. Volunteers in the third group did not wear a bracelet. Analysis of the results of the study demonstrated that, to a significant number of the volunteers, the wearing of a copper bracelet was of some therapeutic value.

Weighing of the copper bracelets before and after they had been worn by volunteers showed an average loss in weight of 13 mg/month from the 14g bracelets. It was found that sweat is able to dissolve copper. Further, radio-labelled copper complexed to glycine (and amino acid present in sweat) was able to penetrate animal skin in *in vitro* experiments.

In view of their efficacy and lack of toxicity, patents were sought and obtained for a wide range of compounds, their pharmaceutical formulations and utilization as topically-applied anti-inflammatory agents. Patent cover has been obtained in Australia, USA, Japan and EEC countries. Three formulations have been developed for commercial distribution, *Dermcusal*, *Cubuter* and *Alcusal*. The first two products have been developed, manufactured and marketed for the veterinary field by the wholly Australian-owned, Sydney-based company Vetsearch International. Vetsearch has exported *Dermcusal* to more than a dozen overseas countries. Notable race horses treated with *Dermcusal* have been our own Kingston Town and the 1986 winner of the Tokyo Cup. *Cubute* has been released onto the market only this year. *Dermcusal* and *Cubute* contain DMSO and, therefore, are available only for animals since DMSO has only limited approval for human use. Nevertheless, many people have been willing to classify themselves as guinea pigs and have used *Dermcusal* to relieve inflammation and arthritis. Successful users include at least two of Australia's 1986 Commonwealth Games representatives and a couple of our salt-water board paddlers.

*Alcusal*, like *Dermcusal*, is a copper salicylate formulation but does not contain DMSO. It is designed for the human market. After several years of development, it will be marketed, probably early in 1987, as a gel. Because of its lack of toxicity the National Health and Medical Research Council's reviewing committee has indicated that no restrictions or safety warnings are necessary in regard to its sale. Nevertheless, toxicity studies and initial trials have had to be conducted. All results, as with *Dermcusal*, have been fully satisfactory.

The formulations which have been developed are unique in that they have anti-inflammatory activities, but are applied to the skin. Recent studies involving compounds radiolabelled with *64Cu* have shown that the radiolabel homes in on sites of inflammation. It is considered that one action of the active compounds is to deactivate abnormal forms of oxygen generated at sites of inflammation, and such activity has been demonstrated *in vitro*.

There followed the development of a number of copper co-ordination complexes designed to be electrically neutral and, thus, able to pass through the skin. A number of the complexes included compounds which, in their own right, were known to have anti-inflammatory properties, of which salicylate and phenylbutazone are two. Dr Walker's graduate students, Russell Reeves and Stephen Beveridge, were involved in this sphere of the work. The next aim was to apply these complexes topically, and to determine their efficacy as anti-inflammatory agents.

Dr Michael Whitehouse, an experimental pathologist, then of the Australian National University, became involved in the formulation and *in vivo* testing of the compounds and Dr Beveridge collaborated in this work too. The formulations involved alcohol, glycerol (as a skin-wetting agent) and dimethylsulphoxide (DMSO), long known as a solvent capable of transporting many substances through the skin. The formulations involving copper salicylate adducts were found to be potent anti-inflammatory agents, even when applied on areas different from the sites of inflammation. Most significantly, synergism was observed between copper and salicylate, with copper salicylate being far more effective than the sum of the effects of either copper or salicylate alone. Further, in the laboratory trials, the efficacy of copper salicylate formulation was significantly greater than that of phenylbutazone, long recognized as a potent anti-inflammatory compound. However, the copper adduct of phenylbutazone was found to be the most potent of the tested compounds.

The three products mentioned represent a venture where a basic research interest has led to results that have been applied to the development of commercially successful products. Nevertheless, the handful of academics involved have learned that it is extremely difficult, time-consuming and frustrating to try to obtain assistance from private companies and government departments to investigate and exploit results obtained in an Australian academic institution. As it is, the current exploitation is only a fraction of the potential. It is estimated that annually, in the United States, 12 million adults suffer inflammatory conditions, such as j*topical* sprains, resulting from physical exercise... *Alcusal* is very effective in relieving the symptoms of such conditions. However, Federal Drug Administration approval is necessary before *Alcusal* could be marketed in the USA. Attempts to obtain financial support to undertake the necessary testing and trials required by the FDA have, so far, been unsuccessful. It is for this reason that Dr Walker and his partners have adopted grandpa's philosophy, "If you want a helping hand, you will find one on the end of each of your arms." They are firmly convinced that, if academic research results are to be exploited for Australia's benefit, we need to develop effective systems to bring results from the work bench to the commercial suppliers.
OBITUARY – Greg Martin

It is characteristic that Greg Martin's administrative office in the Department of Education features two White originals, both with a focus on Australian nature: a carved New Guinea mask, a yachting poster from France, a street portrait from New York and a noticeboard which had academic directories and memoranda interspersed with cartoons such as the one featuring a middle-aged couple standing next to a beaded, long-haired, sandalled sect member holding a card entitled "Only way to go". The husband is saying to his wife: "You go on home without me, Irene. I'm going to join this man's cult."

A quiet and private person, Greg was able to stand back from society and get a wry smile from the sham and games. Greg's eclecticism led him to a wide range of interests, reading, and to creative writing. He was one of the first permanent part-time workers in the University choosing to use half-days for his own creative pursuits.

Despite apparent increasing pain, Greg worked until a matter of weeks before his death, which caught his friends and colleagues in the Department by surprise. The surprise was not that death was unexpected: it was the lack of time to prepare. In retrospect, though, Greg was probably best prepared of us all.

R. T.

SUPERNOVA MODULES GO TO CANBERRA

Recently Supernova achieved a significant first in its history when it received an order from the Department of Science in Canberra commissioning it to build copies of five of its hands-on modules. The Department of Science is involved in the setting-up of the Australian Science and Technology Centre in Canberra based on the Questacon. This bi-centennial project will involve the building of an $18 million building and the staffing of that building with 30 or more staff. The Australian Science and Technology Centre will in fact be one of the major tourist attractions of Canberra following its opening. The interim director of the Centre is Dr Michael Gore from the Questacon in Canberra. Following his visit to Supernova in April, he has placed an order for five of our modules as he feels that they are the most suitable examples he has seen, and would like them placed in the National Science Centre as part of its display collection.

Assoc. Professor Tim Roberts says he considers it a great honour as we have been building our modules under considerable difficulties and with a great lack of experience in this area. The modules are the reverse masks, the Bernoulli blower, the pulleys, the crazy mirrors and the Jacobs ladder.
Freda Whitlam is the Moderator of the Uniting Church, NSW Synod. She is also a member of the NSW Higher Education Board. She has spent most of her working life teaching and administering in private schools, having been principal of PLC Croydon for 19 years until her retirement.

Miss Whitlam considered some possible definitions of the word 'Peace'. She recalled that her own given name, Freda, and the name Irene, originated from a word meaning peace, or rather meaning absence of war. It was notable that there were a great many words relating to war and violence in the English language but very few synonyms for Peace.

In our culture, war and conflict are not merely accepted but encouraged and approved. This is particularly evident from the language used to report sporting events. Phrases such as "The Wallabies drew first blood" abound. Sports people generally regard violence or the prospect of it, as a major drawcard in attracting spectators. There is also a conscious encouragement of aggression on the roads, witnessed by the names given to different models of motor car, such as Meteor, Falcon.

Much television entertainment, including even the cartoons watched by children, contains violence. But, of course, violence is all right if the scriptwriter is Shakespeare or Verdi and its on the ABC!

Australians have only recently begun to accept openly how much violence occurs at home in the family.

While the majority of people see peace in a negative way, as non-violence, there are some who see it in a more positive sense as tranquility, or calm in the face of difficulty. But even this perception has its negative side, as an absence of activity or involvement. During visits to parishes in New South Wales over the last year Miss Whitlam has observed the effect of such lack of involvement in the form of opposition to change.

Peace can mean non-violence and tranquility. It can also mean concord, a word with many more synonyms than has peace, such as agreement, harmony and co-operation. It stresses relationships.

Australia would be a better place if people worked harder at promoting understanding and co-operation among the different groups that exist in society. In fact, we tend to promote differences. We are becoming more sensitive to ecological issues and beginning to consider the possible future effects of current methods of land use.

Australia's urban development conflicts with the idea of 'Shalome'. The common forms of suburban development create loneliness, isolating one age group from another, and particularly children from their extended family, grandparents, uncles. This is particularly the case in the Western suburbs of Sydney and Melbourne. There is a great need for community development in such areas. It is good to see such things as women's refuges and Neighbourhood Watch being established through the action of local communities. There are encouraging signs of 'Shalome' in the increased caring role of fathers towards their children and in a variety of other aspects of our community life.

In all the activity directed towards improvement of our physical well-being we should not forget our spiritual needs. Miss Whitlam appealed for a special effort to set our spiritual life free in this Year of Peace.

Another meaning for Peace is contained in the Hebrew word 'Shalome'. This means both harmony of individual body, mind and spirit and harmony within a community. It is also acceptance of the integrity of the land in which we live. In the past, white Australians have used the land carelessly, but we are becoming more sensitive to ecological issues and beginning to consider the possible future effects of current methods of land use.

2NUR - BROADCAST OF THE NEWCASTLE LECTURE

Miss Whitlam's speech will be broadcast, in summary form, between 4.30 and 5.30 pm on Sunday, September 7.

The Vice-Chancellor's

Third Term Meeting With Staff

will be held in the

Arts Drama Theatre

on

Tuesday September 23, at 1.05 pm
Visiting Swedish Academic

Professor Bjorn Wittenmark arrived at the University on July 29 and will be Visiting Research Fellow in the Department of Electrical and Computer Engineering until mid-June, 1987. From the Lund Institute of Technology, Sweden, Professor Wittenmark holds the degrees of Master of Science in Electrical Engineering and Doctor of Science in Automatic Control. He is Associate Professor in Automatic Control and Director of Studies for the Department of Computer Engineering at the Lund Institute of Technology in Sweden.

Professor Wittenmark is enjoying working with his contemporaries in the Department because they share the same spirit of enquiry.

Although the two Universities are similar in some ways Lund has just over 20,000 students and its Engineering School is much larger. In fact the Automatic Control Course has about 350 students and five faculty members. Professor Wittenmark tells the News that "it is wonderful to get away from University responsibilities at home".

In 1973 Professor Wittenmark was the co-author of a paper on Self Tuning Regulators (STR's) which essentially started the whole area of adaptive control. He has recently been nominated for the grade of Fellow of the Institute of Electrical Engineers (USA). This grade of membership is reserved for those who have made outstanding contributions to research.

Professor Wittenmark first met Professor Graeme Goodwin about 1970 while attending a conference and then at subsequent conference and they have been corresponding with each other from time-to-time.

Professor Goodwin had been trying for some time to attract Professor Wittenmark to Australia to work on Adaptive Control, believing that his contribution to research would be invaluable and that his presence in Australia would be very beneficial to postgraduate students and to local industry.

Professor Wittenmark hopes to combine the research findings of Newcastle and Lund Universities in order to improve control techniques for use in industry.

Lund has about 100,000 people, is dominated by its University and hospital and is not an industrial city. Its campus has open space like hours but it is spread around the town. Lund University was founded in 1668: it is the second oldest university in Sweden.

The Professor also enjoys bush walking (looking at native flora and fauna) and photography. His wife, Karin, his daughter, Ida (16), Johanna (13) and son, Karl (8) have accompanied him to Newcastle. His other daughter Emma (19) will be joining them shortly for a few months before returning home to go to university.

While Professor Wittenmark is visiting us, Dr David Hill, Senior Lecturer in the Department, is working in Professor Wittenmark's Department at his University. Dr Hill arrived in Lund last November and will return this coming November. Professor Wittenmark said that he had been working with Dr Hill for the past six months and will continue doing so upon his return to Newcastle.

Public Lecture

On September 19 Professor Zeff will deliver a public lecture on the topic: The Forces at Work in Forging an Acceptable Theory or Conceptual Framework for Accounting from 5 pm until 7 pm in Lecture Theatre R02.

Professor Zeff is a Professor of Accounting from Rice University, Texas, USA. He is an eminent accounting scholar and is currently the President of the American Accounting Association.

Further details regarding Professor Zeff's visit and lecture are available from the Department of Commerce at 68 5735.

Philosophy Conferences

Towards the end of the year the Department of Philosophy will host two mini-conferences.

On Friday, November 14, 1986, there will be a meeting on Contradiction, held in the departmental area. The papers, offered by outside and local speakers, are expected to focus on the reasons why apparently inevitable paradoxes and self-contradictions tend to appear in theoretical transitions from continuity to discreteness (and vice versa). While the general orientation of the meeting will be logical, it is likely that reference will also be made to certain problems which arise when continuity/discontinuity are discussed in physics and mathematics.

The meeting on Contradiction will be followed by a two-day conference on the Philosophy of Hegel (Saturday 15 and Sunday 16 November, 1986), held at the Morpeth Conference Centre, about 20 minutes' drive from the University. It is expected that the papers will deal with such questions as the reasons for the present revival of interest in Hegel, Hegel's philosophical development, aspects of Hegel's systematic philosophy, and Hegel's historical relations.

For further information please contact Assoc. Prof. Bill Doniela (ext. 221) or the Departmental Secretary (ext. 411). Both conferences are open to all interested persons and there will be no attendance fee for casual participation. For the Hegel Conference, meals and accommodation will be provided (optional, by the Morpeth Conference Centre).
Visit by new Vice-Chancellor

Council was informed that Professor Keith Morgan, who is to take up office as Vice-Chancellor on January 1, 1987, following the retirement of Professor Don George, will be visiting the University from August 29, to September 6. During his visit Professor Morgan will be undertaking a programme of visits and discussions. Mrs Morgan is accompanying her husband.

Academic Developments

Council considered a number of academic developments at its meeting on August 15.

- Provision for the awarding of separate degrees of Bachelor of Arts and Bachelor of Arts (Honours), similar to those recently approved 'in relation to the degree of Bachelor of Science, were approved.

- The introduction of a Bachelor of Computer Science degree course was approved.

- The introduction of a degree in the Faculty of Arts, the degree of Master of Letters, was approved. Coincidentally the provision for a course work programme for the degree of Master of Arts was deleted.

- Regulations for the degree of Bachelor of Medical Science were approved. These regulations replace the previous Requirements.

- A time limit has been set for the completion of the degrees of Bachelor of Science and Bachelor of Science (Honours). Unless given special permission of the Faculty Board, a candidate will have to complete the requirements for the Ordinary degree within nine calendar years of the commencement of the course.

- The introduction of a number of new subjects has been approved: Japanese IV; Computer Science III in the Bachelor of Science course; and Statistics II in the Bachelor of Mathematics course.

Establishment of Prizes

Interest in and support for the University was reflected in the establishment of two new prizes and the approval by Council of their Conditions of Award.

The Newcastle Sub-branch of the Australian Water and Wastewater Association has undertaken to support a prize to be awarded to the candidate for the degree of Bachelor of Engineering whose Year IV Project report on a topic cleansing water or wastewater is judged to be the best.

The Ruth Higgins Prize, which will be awarded to the student at either the honours or postgraduate level in the Department of History who achieves the best overall performance in studies relating to the history of women, commemorates the late Ruth Higgins who, throughout her life, was active in community affairs in the Hunter Region. She was a life member of the Board of Western Suburbs Hospital and helped to establish the Dungog Hostel for Aboriginals. For many years she organised a regional women's group of the Australian Labour Party and the history of her involvement with the Christian Socialist Movement in the Hunter Region was published just before her death at the age of 90.

Hunter Technology Development Centre

Council authorised the Vice-Chancellor to finalise negotiations with the Board of the Hunter Technology Development Centre for the construction of a subsidiary Annexe Building within the Engineering Complex. The Annexe will be located behind Building E2.

Superannuation Schemes for Australian Universities

The Council noted that the NSW Vice-Chancellors' Conference, on behalf of the Universities in the State and the University Academic Staff Association, had recently presented a joint submission to the New South Wales Government concerning membership of SSAU by New South Wales Universities and the need to change existing legislation.

Proposed International House

On the advice of its By-Laws and Constructions Committee Council decided to inform the promoters that it had no objection to the Memorandum and Articles of Association of the proposed Newcastle International House Limited and had no objection to the proposed Newcastle International House.

The Steering Committee for the proposed development hopes in due course to build 28 residential units, each accommodating five students, a Central Dining/Meeting facility and a Warden's residence.

Science/Engineering Project

Council was informed that the University was currently waiting for approval from CTEC to proceed to the sketch plan stage of a Science/Engineering building to be located west of Building E at the Engineering Complex. Representations to the Chairman of the Universities Council seeking approval to construct separate buildings for science and for engineering had been unsuccessful.

Acting Deans

The Council amended the Regulations Concerning Deans and Other Faculty Officers so that eligibility for election as Acting Dean was extended to cover the staff eligible for election as Dean.

Membership, Faculty Board of Medicine

The Professor of Biostatistics has been added to the membership of the Faculty Board of Medicine.
Title of Persons Presiding at Meetings

The Council had earlier sought the advice of the By-Laws and Constitutions Committee on the proposal from Senate that the person presiding at a meeting be described as "convener".

The Committee advised Council that it felt that the term "convener" was inappropriate for general application and reminded the Council that the legislation of the University was being amended progressively to remove sexist terminology. It further reminded Council that the ACEO had not recommended that one particular term be prescribed for all Committees.

In taking account of this advice, Council decided that it should be within the province of any Committee to determine the gender neutral designation it preferred to adopt in respect of the person presiding at its meeting.

Commonwealth Affirmative Action Legislation

The ACEO informed Council that the EEO Co-ordinator would be consulting with the Director of Equal Opportunity in Public Employment to obtain her views on the relationship between Anti-Discrimination Legislation of the State and the Affirmative Action Legislation of the Commonwealth. The Committee did not envisage that the Commonwealth Legislation would involve any significant modification of the approach the University had adopted.

Credit Union AGM

The Universities Credit Union will be holding its annual meeting on Wednesday, September 10, in the Southern Cross Room, 3rd level, Union Building at 5:30pm. All members are invited to attend.

Aboriginal Education Centre

The Centre will be complimentary to services already existing in Newcastle for Aboriginal people and will be a means of acquainting the non-Aboriginal residents of Newcastle with Aboriginal culture and values.

The main aims of the Education Centre will be to:

- Enhance the development and learning of Aboriginal students.
- Enable all students enrolled in tertiary courses to have some knowledge, understanding and appreciation of Aborigines and their cultural heritage.
- Foster better intercultural understanding within the broader community through the development of Aboriginal Education Programmes.
- Provide an important community resource focusing on Aboriginal culture.
- Encourage a greater number of Aboriginal people to undertake tertiary studies by providing suitable support structures ie. both physical and academic.

At present there are 29 Aboriginal students studying at Newcastle CAE in the areas of Physical Education (6), Primary and Early Childhood Education (6), Social Welfare (9), Mathematics and Industrial Arts (2 each), Computing Studies, Home Economics, Visual Arts and Nursing (1 each) and nine studying at the University. It's estimated that by 1988 about 80 Aboriginal students will be enrolled in College courses and about 20 enrolled in University courses.

Reminder to Staff

SRC Research Grant applications close September 1, 1986.
The aim of the occasion is to give school students who are about to enter their final years in high school a small taste of the University and, in particular, some appreciation of the activities of members of the Faculty of Mathematics. An introduction to the benefits of studying mathematics, computer science or statistics at university in terms of career opportunities is included in the programme together with some information on appropriate subject choices for Years 11 and 12.

The programme for these days features four 45-minute talks on various aspects of mathematics, statistics and computer science, together with careers advice. Topics covered this year included statistical analysis of cigarette smoking among school students, mathematics and the appreciation of human cultural heritage, computer hardware, machine intelligence and the social implications of computers, the pleasures of applied purity and astrophysics. Talks were given this year by Dr W. Wood, Professor P. K. Smrz, Professor W. Brisley, Dr S. McElwain, Professor A. J. Dobson, Professor J. L. Keedy and Dr J. Rosenberg.

The Year 10 day organised by the Department of Mathematics, Statistics and Computer Science. The demand shown for these days is indicated by the fact that, unfortunately, several schools could not be accommodated in the programme due to restrictions on the number of participants. However, some 25 schools were able to attend this year, including, for example, Henry Kendall High (Gosford), Singleton High, Bulahdelah Central, Wingham High, St. Joseph's High and, closer to home, Jesmond High. The students are selected from the top two advanced mathematics classes of Year 10 in each school.

Visits to Istanbul and Jerusalem

Professor John Keats has recently returned from the Biennial Congress of the International Association of Cross-Cultural Psychology (IACCP) in Istanbul and the Congress of the International Association of Applied Psychology (IAAP) in Jerusalem.

In the case of the IACCP Congress, Professor Keats attended sessions concerned with cultural factors in psychological test performance and contributed to the discussion. During the period, he was approached by the Chairman of the Publications Committee of IACCP and asked if he would consider serving as an associate editor of the Association's Journal. The new team will be appointed early in 1987.

At the IAAP Congress in Jerusalem, Professor Keats participated in the International Test Commission's Symposium on Computer Assisted Testing. Contributions came from Australia (2), Israel (2), The Netherlands (1) and USA (3) and the Chairman and Discussant were from England and the USA respectively. The eight contributions and discussion occupied the full day with interesting and pertinent material. The title of his paper was Computerized Testing Using Experimental Tasks and after the presentation he was approached by others working in this field seeking possible collaboration.

Professor Keats would like to thank the SRC for assisting him in furthering his theoretical and applied research interests.

OFF TO STUDY ARCTIC HAZE

Dr Howard Bridgman, former Chairman of the Board of Environmental Studies, has recently departed for Boulder, Colorado to study Arctic air pollution problems. Dr Bridgman will be working in the Arctic Gas and Aerosol Sampling Program (AGASP) while he is on study leave. As part of his contribution to the project, he will analyse links between air pollution moving off the coast of the eastern United States, across the North Atlantic, and into the Arctic region, to overall air pollution concentrations.

"One would not normally think that an area as remote as the Arctic would have an air pollution problem", Dr Bridgman said. "However very long range transport of man-made emissions from Europe, Asia, and North America brings enough pollution to the Arctic to affect the radiation budget there. These pollutants are mainly sulphate particulates, organics and carbon soot, and may help create a warming in the Arctic which could help melt part of the ice cap. The timing of my trip is ideal because the study group has just finished a major field program."

Dr Bridgman will be working at the Co-operative Institute for Research in Environmental Studies at the University of Colorado. During the year he will be away he will also have access to information from many United States Government Agencies, including the National Centre for Atmospheric Research and the National Oceanic and Atmospheric Administration. He expects to write several journal articles while at Boulder, and to link the University of Newcastle as a participant in the study of a major international concern.

Dr Brian Beresford-Smith Organiser of the Year 10 Special Mathematics Excursion.

Once again, the University has been inundated on each of two days in the last two months by approximately 500 Year 10 mathematics students from throughout the Hunter Valley and beyond. The occasion was the eighth annual Special Mathematics Excursion for Year 10 students to the Department of Mathematics, Statistics and Computer Science. The demand shown for these days is indicated by the fact that, unfortunately, several schools could not be accommodated in the programme due to restrictions on the number of participants. However, some 25 schools were able to attend this year, including, for example, Henry Kendall High (Gosford), Singleton High, Bulahdelah Central, Wingham High, St. Joseph's High and, closer to home, Jesmond High. The students are selected from the top two advanced mathematics classes of Year 10 in each school.
Improving Study Skills

Ms Julie Edwards

 Forty-six Year 11 students in two Hunter Valley high schools were taken through a 'metacognitively oriented' study skills course in a period of eight weeks. Compared to a control class, students in the course significantly improved their approaches to learning, becoming more systematic and organized in their search for meaning in what they studied. Subsequent HSC results showed the mean aggregate of the 'metacognitively oriented' students to be 35 points higher than the controls (which is a statistically significant difference). This last result must however be cautiously interpreted, as it was not possible to compare the schools prior to treatment.

These are the findings of Ms Julie Edwards, in a recently completed M.Psych.(Ed.) thesis entitled The effects of a metacognitively-oriented study skills course on students' approaches to learning and on examination performance. Her supervisor was Professor John Biggs.

Why a 'metacognitively-oriented' study skills course? In traditional study skills courses students are taught (with varying success) how to study in a prescriptive and directive way, as if there are right ways and wrong ways. The results of such training are equivocal: sometimes they work, often the results are only temporary. 'Metacognition' is a term used by psychologists to refer to the fact that we may be led to become aware not only of what we are learning, but of the way we are learning. Such self-knowledge is explicitly used to improve future learning in a metacognitively-oriented study skills course. Self-knowledge here was gained from the Study Habits Evaluation and Instruction Kit (SHEIK), through group interaction, and using SHEIK scores as a basis for self-monitoring. The students were thus made aware of their own processes and alternatives which might suit them as individuals. Students' approaches to learning were monitored, before and after treatment, by the Learning Process Questionnaire (LPQ), which indicates the extent to which students' patterns of motives and strategies for learning comprise 'surface', 'deep' or 'achieving' approaches. (Both SHEIK and the LPQ are published by the Australian Council for Educational Research).

Ms Edwards continues her interest in study skills both as a District School Counsellor and in offering a study skills course through the WEA.

AUSTRALIA RATIFIES UNESCO CONVENTION

Educational qualifications of Australian students working or studying in Europe have become easier to assess by member nations, the Commonwealth Education Minister, Senator Susan Ryan, said today.

Senator Ryan was announcing the Commonwealth Government's ratification of the UNESCO Convention on the Recognition of Studies, Diplomas and Degrees in Higher Education for the European region.

The convention assists in the international evaluation of educational qualifications and will introduce smoother procedures for the recognition of Australian qualifications in the region.

Senator Ryan said Australia's accession to the Convention would also benefit migrants and people coming from Europe to study in Australia.

The decision complements Australia's recent ratification of the equivalent UNESCO Convention for Asia and the Pacific.

For further information please contact Paul Strutynski on (062) 73 1343 or Helen Connor on (062) 83 7910.

Academics for Peace

Australian Academics for Peace in the Middle East is an academic association which exists to promote informed discussion on the conditions for a just and lasting peace between the State of Israel and the Arab world.

One of APPME's major activities is to organize academic study missions to Egypt and Israel, in which participants receive high level briefings on the political, military, and social aspects of the Middle East situation. The next study mission is scheduled to start in Egypt on December 15, 1986. Participants will then move to Israel for a further two weeks, December 23 - January 5, 1987.

These study missions are organised in co-operation with the Foreign Minister of each country concerned. In Israel, the Australian group will join an American group organised by an American Professor for Peace in the Middle East. Ten places are available.

The total cost of the trip, including air travel, travel in Egypt and Israel, accommodation and most meals, will be $2,355, at present rates of exchange. The Egyptian trip includes a visit to Luxor, and the Israeli trip also includes a number of excursions to historic sites.

Any-one interested in taking part should write to: Mr G. Lee, Secretary, AAPME, Shalom College, University of New South Wales. Applications close on October 4, 1985.

Australian-American Foundation '87-'88.

Applications are now invited for one only award for an Australian citizen to undertake a Master of Arts degree or undertake nine months non-degree studies in the United States commencing September 1987. The Award is based on academic or artistic excellence, in any field of study, and provides air fares, tuition and fees, monthly living allowance, insurance, and an allowance towards books and supplies. Application forms may be obtained from: Australian-American Educational Foundation, P O Box 1559, Canberra, ACT 2601, Tel: (062) 47 9331. Completed applications must be submitted before October 15, 1986.
For Sale
Mitsubishi Nimbus NJW-841. Only 10 months old with 17,000 km on the clock. Still under warranty. It is air-conditioned and automatic, and has internal rear brakes (side and rear windows). Colour is “Italian silver”. Economical to run, it cruises comfortably at highway speed and handles like a sedan. The only comparable people-carrying vehicle is the Peugeot wagon at twice the price. Replacement cost is a little over $19,600 but the purchaser can negotiate for cash to about $4,000 less, or can take over the low interest loan (a much better deal really and anyone could do this). Please telephone 68 5232, or 26 4779 (or 43 6529 evenings).

Suzuki Hatch 800, 81 model, 83,000 km, registration up to May 87, in excellent condition. $2,600 o.n.c. Please telephone Ext. 509 during working hours.

Surfboard, 6’ square tail thruster in good condition, (only ridden by little old lady at Flat Rock on Sundays.) Asking price: $180 o.n.o. (Includes leg-rope, boardcover and railsaver). All interested persons are requested to contact Chris at 68 1281 business or 2 1133 at home.


Tuition Available
Tuition is offered by the Leader of the Hunter Orchestra, John Rodgers (formerly Leader of the Queensland Theatre Orchestra, and of the Australian Youth Orchestra on its European tour) in violin. Members of the Hunter Ensemble, the permanent nucleus of the Orchestra, are also available for tuition in violin, viola, cello and clarinet. Please contact the Administrator of the Orchestra Dr Mangala Frost by telephoning 26 4215.

To Let
One bedroom furnished unit by waterfront near Toronto, quiet, 20 minute from University, to let Dec. 86 - Aug. 87. $85 p.w. negotiable. Please telephone Ext. 792 or 59 6896.

To Let, share with one or two persons.
Historic sandstone house in Morpeth, only 30 minutes from city. This house is spacious, three levels, tastefully furnished, has idyllic riverbank setting. Suitable for quietly, scholarly person. Non-smoker preferred. Please telephone 56 8101 at home.

Members of the Hunter Ensemble, the permanent nucleus of the Orchestra, are also available for tuition in violin, viola, cello and clarinet. Please contact the Administrator of the Orchestra Dr Mangala Frost by telephoning 26 4215.

Seminars

Thursday, September 11, 3 pm
Departments of Sociology and Drama seminar to be presented by Adrian Vickers (Indonesian and Malaysian Studies, Sydney University). Topic: Reflexivity in Classical Balinese Dance. Venue: Room 323, Sociology Building.

Monday, September 15, 1 pm

Wednesday, September 17, 9.15 am
Department of Mechanical Engineering seminar to be presented by Professor Jorg Imberger (University of Western Australia). Topic: Research at the Centre for Water Research at the University of Western Australia. Venue: Room G01, Engineering Building A.

Friday, September 19, Noon
Department of Chemistry seminar to be presented by Dr R. A. Fredlein. Topic to be announced. Venue: G005, Chemistry Building.

Spaghetti Bridging Competition

On Thursday, August 14 the Department of Engineering held a Spaghetti Bridging Competition, which was open to first year students working in groups of three. Each group designed a bridge made out of only spaghetti or macaroni and glue. The spaghetti was tested on a weight machine before constructing the bridge. Then they built the bridges, designed to support an articulated roadway and a trolley which runs down a roller coaster track and over the roadway.

The competition was entered by, Donald Wilson, Andrew Pain, Emanuella Papas and Andrew Tan. The idea was to have the lightest bridge that can withstand the most weight for the longest time, gradually building the weight up.

The entire competition was videotaped, with a view to making this an annual event.