

Chisholm

May 1988
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Gazette



**Building on our Strengths – Chisholm opens new buildings
on Caulfield and Frankston campuses**

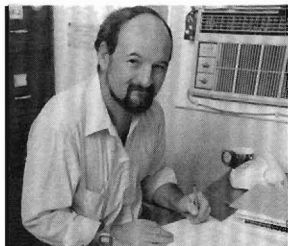
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Chisholm Institute of Technology

Chisholm Institute of Technology is a multi-disciplinary tertiary institute offering studies in five schools and faculty located at two campuses, Caulfield and Frankston.

It is the third largest of Victoria's Colleges of Advanced Education with a total enrolment of more than 7,000 full and part-time students in its graduate and undergraduate programs in Art and Design, Business, Education, Nursing, Social and Behavioural Studies and the Technologies.

Chisholm has a proud record of offering relevant short courses in its areas of expertise for thousands of students each year, and a strong reputation as a research and consultancy organisation.

Chisholm's New Business Dean

The new Dean of the David Syme Business School at Chisholm, one of the biggest and most respected Business Schools in Australia, believes he is well experienced to take advantage of the new emphasis on industry needs in the education world.

Mr Peter Chandler is well-known as a marketing expert both in Australia and overseas, and he has had considerable industry experience of his own. His background is well suited to the post-Dawkins era of education, with consultancy to industry of all kinds since 1971, as well as considerable teaching experience.

Peter is the third permanent Dean of David Syme since the School's inception in 1973. The School, which is widely respected for its Marketing, Accounting, Management and Banking & Finance Departments and courses, has traditionally had a strong involvement with industry and with heads of industry as Visiting Retail Fellows and members of the course accreditation boards. In addition, there is sponsorship of various aspects of the School's activities: Elders IXL support the Fellowship in Agribusiness, and a number of other major companies (Shell, IBM, etc.) have made contributions to the education of high quality graduates to serve the needs of the marketplace.

OPPORTUNITIES FOR CHANGE

Peter believes the School's opportunities lie in identifying and building on its functional strengths. He sees his role in responding to the challenge to find ways to enhance these strengths, and hopes to encourage research and development in the School, seeing many opportunities to co-operate with industry.



Left, Peter Chandler, new Dean of the David Syme Business School.

'The very process of attracting non-government funding will ultimately make the School more relevant and responsive to the needs of industrial and commercial sectors,' he said.

'What we're on about is attracting high calibre students and ensuring that the educational processes they undertake at the School equip them as high performers in the business world. Industrial and commercial funding will assist us to ensure that students gain an appropriate educational input.'

Peter has seen all aspects of the growth of the School -when he first joined in 1971, the then Head of Business, Noel Huggan, encouraged him not to come to the campus except when he was lecturing.

'There was no phone apart from the Head of Department's, and the switchboard was so bad one had to dial for 20 minutes just to get a line out', he said.

He is sanguine about the proposals for radical change in the education world.

'I think that because the School has always had an applied perspective, it is quite well positioned to take advantage of the external environment that is demanding accountability of education. The

School has always taken the expectations of industry as its guide -to meet and reflect the needs of industry', he said.

Peter matriculated at Melbourne High and gained his Bachelor of Commerce from the University of Melbourne. He has studied at Harvard, completed an Australian Institute of Export diploma, and gained his Masters in Marketing at the University of Lancaster (with distinction) in 1977.

He has been involved in numerous consultancy projects, including marketing strategies for Aussat, the Australian Dairy Corporation, the Australian Tourist Commission, ICI, Dulux Paints, CSR Sugar, Ansett, and the Australian Wheat Board. In addition, he has run training programs for many organisations, including the Pratt Group, Elders IXL, Australia Post, Telecom, CIG, ICI, CSR, the State Bank, Fibremakers, the University of Melbourne Graduate School of Business Administration, and the Australian Administrative Staff College.

Peter is a co-author of the best-selling marketing text in Australia, *Marketing in Australia*, published by Prentice-Hall in 1983. In 1987, he became President of the Marketing Association of Australia and New Zealand.

Two new buildings for Frankston campus



Two new buildings were opened by the Assistant Minister for Education, the Hon. Ian Cathie on 18 March at the Frankston campus. Mr Cathie was involved in a large part of the development of the projects in his former role as Victorian Minister for Education.

The Minister unveiled the plaques for the General Teaching and Nursing Studies Buildings at a ceremony in the large auditorium of the Nursing building. A number of distinguished guests were present, and were shown over the new facilities following the presentation and unveiling.

Above, students outside the new Nursing building on the Frankston campus.

GENERAL TEACHING BUILDING

The General Teaching Building developed from a proposal by Chisholm in 1984 to address the shortfall in space brought about by the 1982 amalgamation of Caulfield Institute of Technology and the State College of Victoria at Frankston and the increase in the need for tertiary places on the Mornington Peninsula and Westernport areas.

The proposal was designed to overcome a lack of suitable accommodation for staff and general classroom space on the Frankston campus at a time when student numbers were dramatically increasing. The three-level building includes 18 class and tutorial rooms and 25 offices and provides accommodation and source space for the David Syme Business School and the Faculty of Technology's Divisions of Information Technology (DIT) and Mathematical and Environmental Sciences (DMES). The building has a main

entrance and foyer at Level 3 and is connected to the Library Block at Level 2. The new facility has allowed for a major reorganisation of the campus, the outcome of which has provided new facilities for the Student Union and student services.

Construction by Civil and Civic Pty Ltd commenced in November 1986 and the building was completed before schedule in November 1987. Funding for the project was \$3,034,000 and was provided by the Commonwealth Government.

NURSING STUDIES COMPLEX

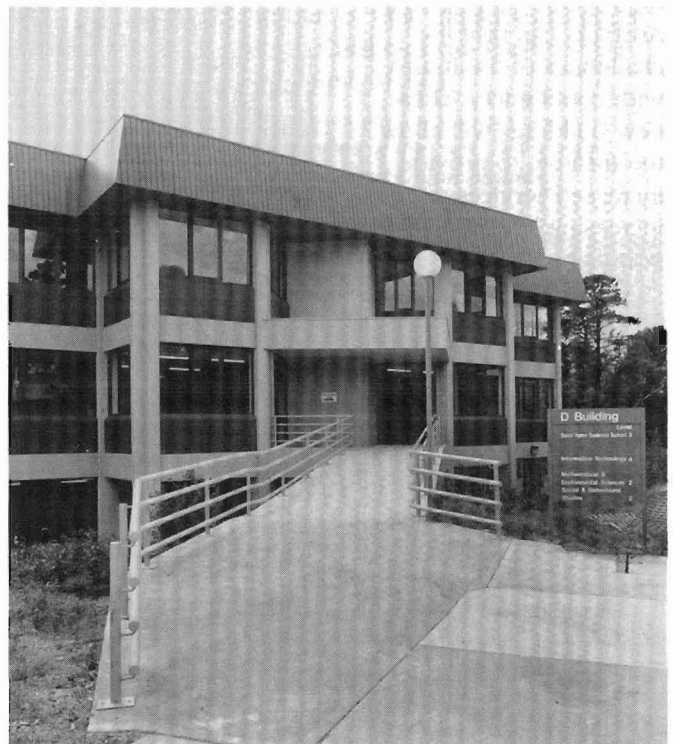
The Nursing Studies Complex is a two storey building designed to meet the needs of the new School of Nursing, which commenced teaching in 1987 as part of the move of nursing education from hospitals to tertiary institutions. It includes 10 specialist laboratories for the teaching of nursing practices, microbiology, anatomy and physiology, one large capacity auditorium, and six lecture rooms. The Diploma of Applied Science (Nursing) course had an intake of 136 equivalent full-time

enrolments in 1987 and 315 in 1988. This is expected to grow to more than 600 students when the transfer of nurse education has been completed.

Construction was commenced in January 1987 by Civil and Civic and was also completed well ahead of schedule in December 1987. The budget for the project was \$4,987,000 and funding was made available by the State Government through the Ministry of Education and the Department of Health.

Continued

Right, the new general teaching building on the Frankston Campus.

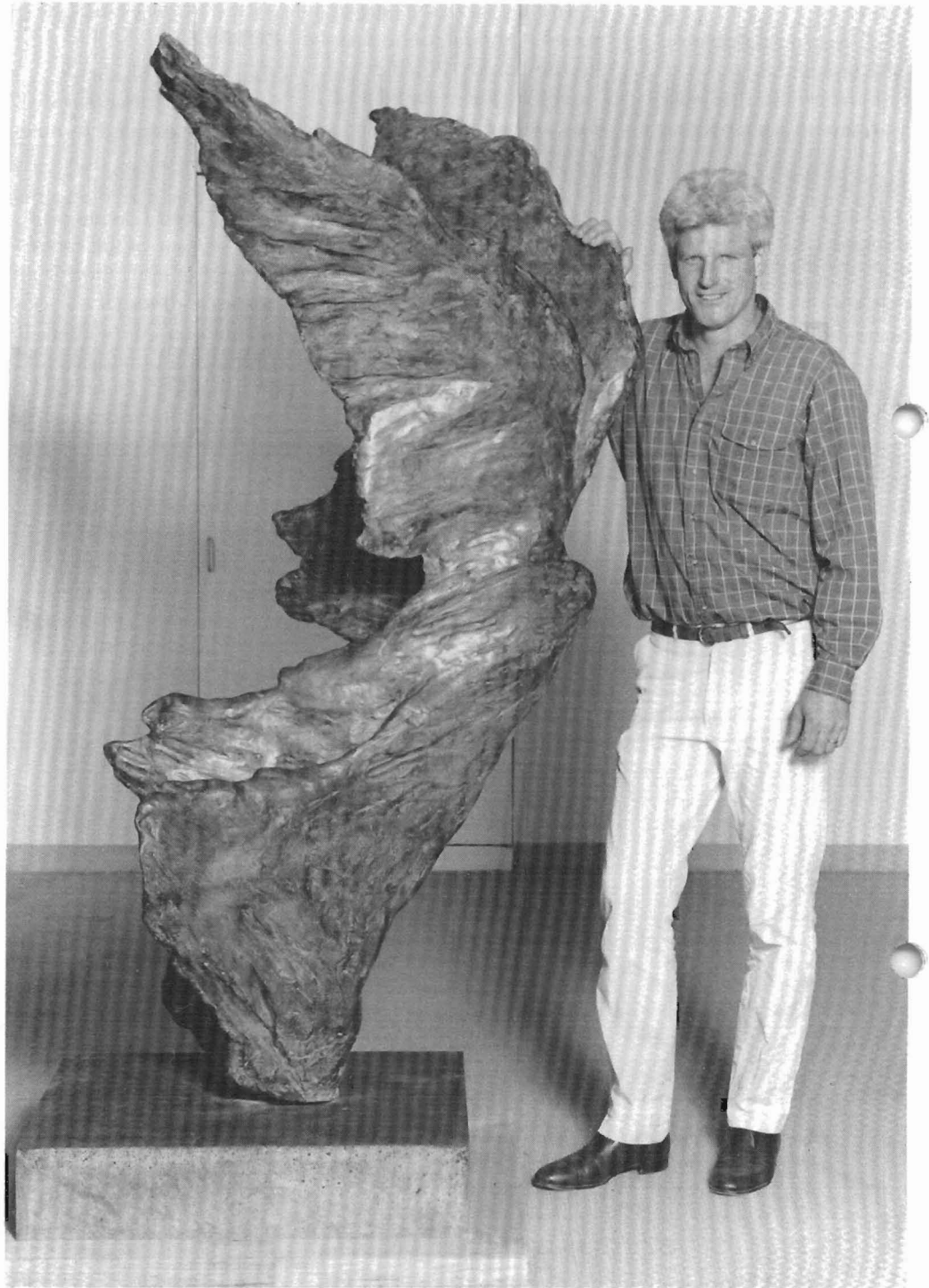


Tower foyer sculpture

ROOM TO EXPAND

Both buildings will supply urgently needed space for Chisholm to provide for the needs for higher education in the rapidly expanding Mornington Peninsula and Westernport areas. Chisholm's Frankston campus came into being in 1982 when it was a teacher education institution with an enrolment of 400 students. Today the Frankston enrolments are close to 1,750 and the Institute now provides courses in Education, Business, Art and Design, Technology, Nursing, and Social and Behavioural Studies.

Chisholm is participating in the government plans to create more places in higher education so that Australia can face the challenges of the future with confidence. These new buildings will allow the Institute to provide increased services to an increasing student population.



Bill Rawls next to the bronze cast foyer centrepiece in the Tower which he designed and sculpted and of which he oversaw the casting. Bill is a Senior Tutor in the School of Art and Design at Chisholm.

Technology Tower opens at Caulfield

On Tuesday 17 May, the Deputy Premier, and Minister for Industry, Technology and Resources, the Hon Robert Fordham, will officially open the Chisholm Technology Tower, heralding the start of a new era on the Caulfield campus.

The Tower, as it is called for short, is to be financed by commercial leases for most of the building, providing student facilities and a multi-purpose hall for the Institute's use now, and class and administrative space in the future. It occupies a consolidated site belonging to Chisholm at 26 Railway Avenue and 2 Princes Avenue, Caulfield.

GRADUATION CEREMONY

The building is the result of deliberations by Chisholm's Council in 1985, in response to the need for improved student union facilities and campus space needs. The building houses the offices of Chisholm Student Union Inc. and other student facilities including a cafeteria, recreational space, and a multi-purpose hall, which is to be used for the first Graduation Ceremony in the new hall, on the day of the opening. Mr Fordham will also address the graduates at the ceremony.

The total project cost approximately \$15 million and in order to finance an \$8 million debt without making use of government funding, the State Treasurer's approval was sought for a funding model that involved repayment through commercial tenancies over a 10 year period. Tenants are to be involved in industries related to areas of interest to Chisholm.

The builders and project managers were John Holland Constructions Pty Ltd and project consultants were

Pizzey Noble Pty Ltd. The building was completed in November 1987.

STUDENT FACILITIES

The Tower has Student Union facilities of 3,300m² and a further seven levels of 5,100m² which provide first class city-office standard space with quality fittings. The ground floor comprises large kitchen facilities, cafeteria, reception area, multi-purpose hall, a gymnasium, change rooms and shower blocks. There is also a large passive recreation area and a small coffee shop.

A number of Chisholm's Research and Consultancy Centres have taken up residence on the fourth floor at commercial rentals, including the Centre for the Development of Entrepreneurs, the International Business Centre, and the Pearcey Centre for Computing.

The name of the Tower reflects both the nature of the tenancies, and the design of the building itself, with provision for computer lines and hi-tech communications facilities. The emphasis of the activities planned for the Tower is to be on technology areas in which Chisholm specialises. A Town Planning

Permit was issued early this year, and tenancies commenced at Easter.

THE 'WESTERN CAMPUS'

The Tower is the first development in the 'western campus' of the Caulfield site. The Institute has acquired a considerable amount of property to extend what has been a very restricted campus. The properties which have been acquired over time will be consolidated and developed against a Master Plan which will allow Chisholm to commission new buildings, with suitable provision for landscaping and parking, to co-operate with State and Federal governments in meeting the challenges of the future.

Chisholm is committed to support new government initiatives which presently include directed growth in the higher education system and participation in the Victorian economic and technology strategies.

The Technology Tower represents the start of new initiatives through which Chisholm can react to meet community needs.

Below, view of the new Technology Tower/Student Union building.



Changes in Higher Education

Chisholm is in favour of an increase in the number of tertiary places and the restructuring of the education system, if the changes are to the benefit of students, staff, the Institute and the wider community, Director of Chisholm, Dr Geoff Vaughan recently announced.

Dr Vaughan's comments follow mooted large-scale restructuring of the education scene in Australia, following the statement made by the new Minister for Employment, Education and Training, the Hon. John Dawkins, to Parliament last year, announcing the federal government's decision to initiate a radical restructure of the so-called 'binary-divide' in higher education which existed between universities and colleges of advanced education.

A Green Paper followed, in which a number of criteria were canvassed for the future of tertiary education, including growth to meet Australia's economic, social and cultural needs, the development of a Unified National System of Education, increased flexibility for educational institutions, more flexible staffing arrangements, and government funding based upon the profile, size and nature of the institution.

An outcome of the proposed system would be the availability to CAEs of research funding on equal footing with the universities, and also an emphasis on the sciences and technologies. Another outcome was the possible restructuring of institutions themselves.

POSSIBLE MERGERS

A discussion paper by the Victorian Post-Secondary Education Commission (VPSEC) has raised a number of possible mergers of tertiary institutions. Chisholm's Council has prepared a response to both the Green Paper and the VPSEC paper, and now waits for the promised White Paper.

The Council recently adopted a decision in principle to accept the necessity for closer organisational connections with other tertiary bodies, and subject to the outcome of the VPSEC Options Paper is prepared to enter into discussions with these bodies with a view to developing possible connections.

'We have had a number of discussions with other institutions,' Dr Vaughan said, 'and although matters are fluid at the moment, we have looked at a possible federation with Monash University and other CAEs, as well as several other options.'

Chisholm is mentioned in the paper in connection with a number of possible mergers, including one with Swinburne Institute of Technology and Victoria College, Swinburne alone, Monash University, or with Gippsland Institute of Advanced Education.

INDUSTRY-RELEVANT EDUCATION

'Chisholm welcomes the renewed emphasis on industry involvement in education made by the Minister, Mr Dawkins, in his statement to Parliament,' Dr Vaughan said.

'Chisholm has had industry involvement in its course accreditation committees for years, especially in technological and business areas, and a number of Australia's biggest companies have donated funding and equipment to ensure the availability of continued quality education for business and industry.

'One example is the Elders IXL Fellowship in Agribusiness, a new graduate program which is important to agricultural industry in Australia. Elders have contributed \$60,000 for the fellowship, which is held by Dr Bill Schroder from the David Syme Business School. The program is jointly run with the Victorian College of Horticulture and Agriculture and Elders have indicated increased support for the next two years.

'Other major donors in the area of Marketing alone include Monahan Dayman Adams advertising agency and the industrial manufacturer, Humes ARC.

'Chisholm also has a number of Research and Consultancy Centres which have heavy involvement with business and industry, covering computer and information technology, entrepreneurial development, robotics, business technology, international business, water research, polymer research, engineering and tribology.

'Chisholm recently took possession of the new nine-storey Technology Tower, which will offer some rental space to related business and

Cloverleaf Symposium at Chisholm

industry. [See page 7.] This \$12 million development has been fully funded by Chisholm and has not involved any government expenditure. 'The Tower tenants will hopefully be engaged in areas of activity which are complementary to Chisholm's teaching and research thrust,' he said.

Dr Vaughan said that he hoped the Dawkins approach to relevant education to meet industrial, cultural and social needs would result in an extension of the kind of activities that Chisholm has been engaging in for many years.

In response to the debate, a number of Chisholm's academic and general staff organised their own symposium in December 1987, under the title 'Terminating the Binary System: Break down or Breakthrough?', on the changes in education.

The staff working group, under the name of 'Cloverleaf', invited a number of key people to address staff and other interested people, explaining the various options and principles.

The keynote paper was delivered by the Secretary of the Department of Employment, Education and Training, Dr Vince Fitzgerald. Responses to Dr Fitzgerald's paper

were made by Prof Mal Logan, Vice Chancellor of Monash, Dr Vaughan, and Dr Ron Cullen, Chairman of VPSEC and author of the Options Paper.

The symposium presented an opportunity to develop an initial and informed response to the federal and state initiatives. Staff continued after the formal presentations with a panel discussion comprising students, academics and staff association representatives. Afternoon workshops focussed on the implications for students and academics in research and education, and future structures for education.

Below, key people in the Dawkin's initiative debate met at Chisholm for the Cloverleaf Symposium: from left, Graham McCulloch, General Secretary of the Federated Council of Academics; Dr Ron Cullen, Chairman of VPSEC; (standing) Dr Geoff Vaughan, Director

of Chisholm; Professor Mal Logan, Vice Chancellor of Monash University; Ms Heather Fiddock, Deputy Director of Homesglen TAFE; and Dr Vince Fitzgerald, Secretary of the Department of Employment, Training and Industry.



New South Pacific Community Education Centre

Chisholm has been granted US\$35,000 to assist in the setting up of the South Pacific Centre for School and Community Development.

The Centre will serve the 22 island nations of the South Pacific, Australia and New Zealand with resources and information on community education.

The grant (approximately A\$49,000) is from the Charles Stewart Mott Foundation in Michigan, and will go towards the activities of the Centre in training and developing community educators in the island nations and Australia and New Zealand.

Director of the Centre, Mr Tony Townsend, said the grant would help the Centre immensely in its work, which he described as a significant step forward for community and school development in the South Pacific region.

The Centre is a joint effort of the Australasian region of the International Community Education Association, the Australian Association for Community

Education and Chisholm's School of Education. It is located in the 'White Cottage' at the Frankston campus of Chisholm (telephone 03 784 4230).

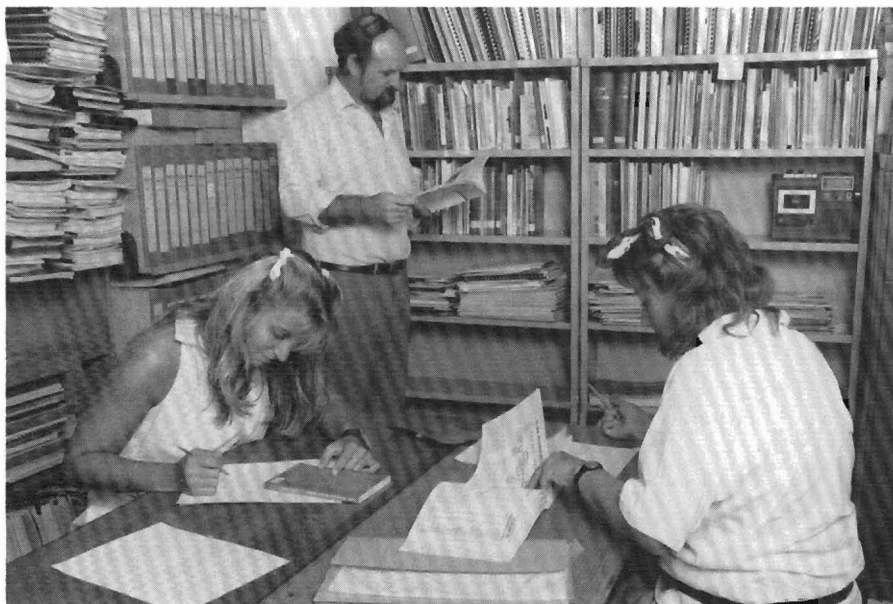
The Mott Foundation grant would be directed to the achievement of research and training in the region, and makes up about 45 per cent of the total budget of the Centre. The remainder is being met by Chisholm and the Australian Association for Community Education.

The Centre will primarily promote community education in the South Pacific. This will be done through **information sharing**, including regular newsletters and a South Pacific Regional Conference, entitled 'Partnerships in Education' (to be held in Melbourne during 26-29 September), and **training**, including formal programs in Chisholm's Bachelor of Education and Graduate Diploma in Community Education, and informal programs for teachers, parents and community members.

The Centre will also research school and community development, and community education in the South

Pacific region. Small grants for this purpose will be made available to staff or students of Chisholm and members of other community groups.

The Centre will house the offices of the Australian Association for Community Education, and the Australasian region of the International Community Education Association, and for two days a week it is already involved in educational and social activities for head-injured adults under the Headway Program.



Left. Tony Townsend, Lecturer in the School of Education, in the new South Pacific Centre for School and Community Development office.

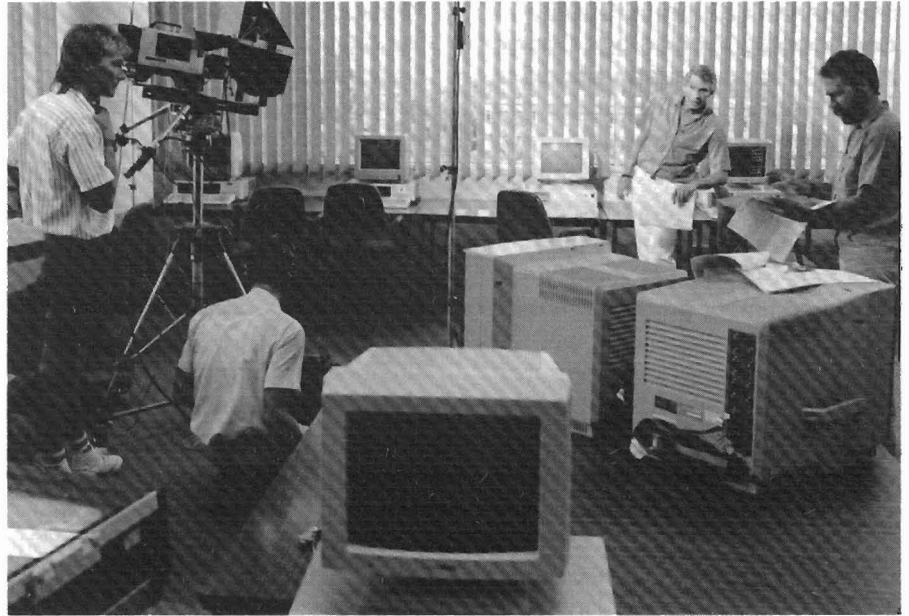
Peter Couchman assists in overseas video

Experienced television presenter, Peter Couchman, has been involved in the production of an 11 minute high quality video for Chisholm aimed at full fee paying overseas students.

The video was produced by Chisholm's Educational Development Unit for the Education Fairs being held in Asia this year.

The video is designed specifically for the Asian market and aims to generate interest in Chisholm by portraying Chisholm courses at Caulfield and Frankston campuses; Chisholm support facilities at both campuses; public transport servicing both areas and local recreational facilities.

Attention is focused on the Language Development Section at Chisholm which is of great importance to many overseas students.



Above, Peter Couchman with Byron Nichols, Media Services Manager, John Blyth, sound recordist, and Rob Pignolet on camera.

Bicentennial resource book for teachers released

A special publication written by two School of Education lecturers will assist teachers to create valuable learning experiences on the bicentennial for children from three to six years of age.

The resource book, *What About Us?*, was written by Elizabeth Mellor, Senior Lecturer in Early Childhood Education and Bob Bilsborough, Senior Lecturer in Music Education in conjunction with Jan Alexander, a Regional Preschool Advisor with the Victorian Department of Community Services. The illustrations were drawn by Bob Greaves, also a lecturer in the School of Education.

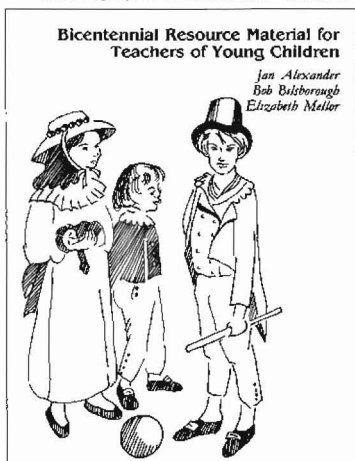
The book provides authentic historical material related to early days at Sydney Cove from 1788 until around 1800, with suggestions as to how it can be implemented in early childhood programs.

The authors believe that learning experiences based on life at Sydney Cove can help children understand the bicentennial celebrations and issues which will be part of their environment in 1988; increase children's understanding of important aspects in their own daily life; and provide a basis for creative language, music and art experiences as well as fostering a problem solving approach.

Each section contains an historical account of aspects of life at Sydney Cove followed by resource material suitable for use with young children.

Order forms can be obtained from Dale Ingamells, Division of Continuing Education at Chisholm on (03) 784 4211.

What About Us?



Left, the cover page of What About Us?

Leadership to timber industry initiative

Staff at the Chisholm Timber Engineering Technology Centre (CTETC) have recently played a major role in the formation of a timber industry association.

The association, yet to decide on an official name, will represent the interests of manufacturers and importers of structural glued laminated timber products. A major function of the association will relate to quality control to ensure uniformity of standards of glued laminated beams.

Glued laminated beams consist of several layers of small timber sections glued together to form a large section. The final size of the section is typically much larger than can be feasibly or economically obtained in solid timber.

Applications of the product include use in industrial and domestic buildings. Large glued laminated beams are often used for footbridges.

The technology to produce the beams is relatively simple. However, because of large variations in strength and other properties of the timber and the need for a controlled environment for glueing, quality control measures are of vital importance. Unlike plywoods, there is no uniform Australian approach to ensure the quality of the end product. Some factories do have external quality audit procedures, others rely on internal checks. The need for a uniform approach was long overdue.

CHISHOLM INVOLVEMENT

Mr Geoff Smith, Senior Lecturer in Civil Engineering, and member of the CTETC team took the steps necessary to form the Association as a result of a visit to the UK during PEP.

Whilst in the UK Geoff worked at the Brighton Polytechnic with Professor Barry Hilson, a leading authority on glued laminated structures. Professor Hilson spent five weeks at Chisholm during 1987 as a Visiting Fellow.

During Professor Hilson's visit, Geoff convened a meeting of Australian-based glued laminated timber manufacturers which was attended by 15 representatives from all States. The meeting was addressed by Professor Hilson and was followed by a CTETC proposal to form an Association. The proposal covered not only aspects relating to quality but also to promotion, product rationalisation and research and development.

At a similar meeting in February this year a more detailed proposal was considered. Industry representatives from Victoria, Western Australia, Tasmania, New South Wales, Queensland and South Australia then unanimously moved that an Association be formed. The meeting established a working party comprising one representative each of major manufacturers in Western Australia, Queensland and Victoria with Geoff as convenor. A levy was made on potential members to fund

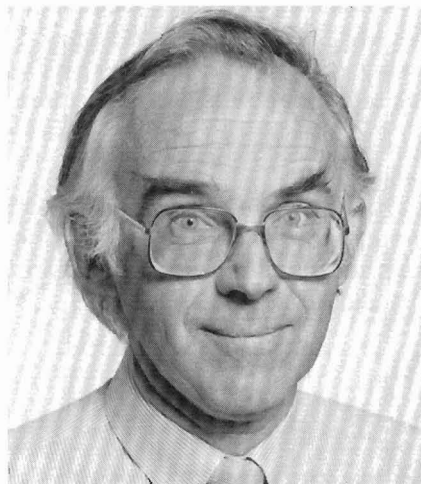
the working party who will work towards formal establishment of the Association later this year.

INDUSTRY SUPPORT

CTETC has received letters of congratulation and support for the initiative from the major state timber bodies. These moves also complement another major aspect of CTETC's work — the development of a range of mechanically joined beams. Joined beams, either glued or mechanically jointed play an important role in the overall timber industry. Joined beams allow small timber sections to be effectively utilised, thus contributing directly to conservation of the forest resource.

These initiatives demonstrate the benefits to both Chisholm and the community of programs such as PEP and Visiting Fellows. Benefits to CTETC and the Department of Civil Engineering not only include the satisfaction of being involved in an important initiative, they also include the generation of research opportunities and the provision of investigation project work for undergraduates, one such project having commenced this year.

See page 14 for more information of Barry Hilson.



Left, Geoff Smith, Senior Lecturer in Civil Engineering.

Timber testing will help conserve forests

A current research project at Chisholm's Timber Engineering and Technology Centre aims to improve methods for manufacturing timber beams from waste to extract more value from the raw resource.

Short lengths and small sizes of timber can be finger jointed and laminated to form large beams but the technology is unreliable, especially the finger jointing.

The project will assist the industry to satisfy a requirement of the Victorian Government, spelled out in its Timber Industry Strategy in August 1986. It strongly emphasised the need for the industry to use value added technologies pointing out that the survival of many firms will depend upon their response to the development of new products and markets through technological advances in processing equipment and potential uses of shorter lengths through adhesive practices. i.e., finger jointing and laminated beams.

There has been no previous research into the production of finger joints in Victorian hardwood; most production methods have been based on practices developed to deal with Northern Hemisphere softwood species. In hardwoods, because of the inherently higher strength timber, the glued joints are called upon to carry higher stress in order to utilise the timber's potential which means there is a uniquely local problem to be solved.

Testing carried out so far for clients on early experimental beams has provided the Timber Centre with first-hand evidence of the need to secure improvements in finger joint performance.

Implicit in the development of successful manufacturing methods is an improvement in product quality. Taken in conjunction with the measurement of full engineering characteristics, the community of professional engineers and architects will have greater confidence in finger jointed laminated beams as a viable building product.

RESEARCH PLAN

Stage one of the research project involves the improvement of finger jointing techniques. This requires the close co-operation of industry and researchers. Finger jointing and associated equipment (drying kilns, docking saws, feeds, finger cutters, glue spreaders, pressing equipment) is expensive, so the trials will be carried out in the mill environment and will involve all major mills in Victoria.

These mills will machine and glue joints under supervision which will be tested at Chisholm.

Later stages of the research will investigate glue types and develop simple quality assurance tests which can be carried out in the mill.

Testing will also be carried out on edge machining, clamping pressures and laminate thicknesses to determine the procedures necessary to produce satisfactory beams for a wider range of thicknesses than formally recognised at present.

The investigations will highlight the parameters which significantly affect product quality. The completion of the project will involve the writing of manufacturing manuals and the development of associated quality auditing procedures. It is also hoped that AS1328, relating to testing and quality control, will be updated.

The project will enable staff of the Timber Centre and the Department of Civil Engineering to become not only more intimately involved with the local timber industry but also to obtain results on a topic of significance to the world community of timber engineers and thus enhance their reputation as researchers.

Civil Engineering lecturer receives Australian road award

Civil Engineering Senior Lecturer, Mr Robin Underwood, has received the prestigious Australian Road Federation 1987 John Shaw Award by the Australian Road Federation.

It is the first time since its inception in 1978 that the award has been made to a Victorian. The John Shaw Award is made for significant contributions to highway engineering in Australia.

Mr Underwood's citation reads 'for outstanding contribution to the development and maintenance of the Australian road network through major and formative technical contribution'.

ROAD CONSTRUCTION AUTHORITY

Mr Underwood was with the Road Construction Authority of Victoria for 30 years before joining Chisholm in February 1987. He was involved



Left, winner of the prestigious John Shaw Award, Mr Robin Underwood.

in all aspects of road and bridge construction during that time. He was also Director-Technical Resources and a Member of the Board of the Authority. During 1986 he was Chairman and Managing Director for three months. His interests at Chisholm are in municipal and highway engineering. He studied traffic engineering at Yale University as a Sidney Myer

Highway Traffic Scholar in 1959-60, and in 1971 undertook an overseas study tour as a Winston Churchill Memorial Trust Fellow. He attended the Australian Administrative Staff College in 1973, and was seconded to the Victorian Transport Study in 1980.

Mr Underwood has published many papers on various aspects of highway engineering, both in Australia and overseas. He has served two terms as Australian representative on the Permanent International Association of Road Congress Technical Committee on Roads in Urban Areas, and as Australian National Reporter on Roads in Urban Areas.

UK Timber Expert Visits Chisholm

Professor Barry Hilson visited Chisholm for five weeks in 1987 to discuss the use of wood with Chisholm's timber engineering experts, including Geoff Smith of the Civil Engineering Department. Prof Hilson is Reader in Engineering at Brighton Polytechnic in the United Kingdom, where Geoff had visited earlier that year.

Prof Hilson has had a special interest in the use of wood as a structural material since 1968. His department at Brighton is the biggest working in the timber field in the UK with funding of approximately A\$900,000 to undertake over 150 research and development projects for government and industry, especially in the field of timber jointing and

the development of new beam systems. Their current major interest is in the use of laminated timber.

TIMBER COMPARABLE TO STEEL

Prof Hilson hopes that timber will become more used in engineering structures, where it has been overlooked in favour of steel and reinforced concrete almost by historical accident. In Europe and the UK there is a renewed interest in timber, especially for its aesthetic qualities, he said, and despite a lack of expertise in its use it was as cheap as steel, and in Germany was cheaper to insure against fire than steel.

He observed that glue laminated timber could be made to be fire

resistant, charring but leaving the structure sound, and that the major obstacle to its acceptance was a promotional one. The UK has just formed a manufacturers' association for laminated timber, and Prof Hilson is on the committee to promote and maintain standards and initiate research and development.

While at Chisholm, Prof Hilson, who visited Australia with his wife, taught Chisholm's fourth year engineering students and assisted Geoff Smith and Civil Engineering Head Bob Milner in research.

Library sets up local database in Frankston

The Frankston Databank was launched at the Frankston City Library late in 1987. A joint project between the City of Frankston, local community groups and Chisholm's library, it consists of two databases – *SouthDoc*, containing historical information, and *SouthFinder*, containing current community information.

As current community information becomes historical information, it moves from *SouthFinder* to *SouthDoc*.

The Director of Chisholm, Dr Geoff Vaughan, said at the opening that the project illustrates the use of a computerised information database as a simple, yet very important community resource, and that Chisholm was proud to be a part of this database.

Frankston Databank has been a pioneering project, stretching microcomputer technology to its limits, doing a job that only a few years ago would have needed computers and software costing up to ten times as much. The database lists community contacts, activities and groups, cross-referenced through a key-word index. The Chisholm Library contribution was the computerisation of the database and the development of the indexing tools.

Local Member of Parliament, Bob Chynoweth, said that the project showed that town and gown, the City of Frankston and Chisholm Institute of Technology, can work together to achieve results that neither could achieve alone. It was with the vision of a new, wide ranging information resource for Frankston and its people that the Frankston Databank project was proposed in 1985, he said.

The project was proposed by the

Library at Chisholm, together with staff at the City of Frankston, and was realised with the assistance and resources of the Commonwealth Employment Program.

The CEP employees on the project, with community volunteers, threw themselves into the work of creating the databases over two years.

Volunteers from the Mornington Peninsula Branch of the Genealogical Society of Victoria indexed the 1889-90 editions of the *Mornington Standard* into *SouthDoc*. Chisholm librarian Neville Houghton, in addition to general project management, was responsible for compiling the sources of indexing terms and for documenting the standards and procedures used in the project.

From the beginning, the Frankston Databank has had a wider significance than just a project for Frankston. Parallel to the development of the Frankston Databank has been the founding of *SouthGuide* – a voluntary network of information providers to the south-east of Melbourne. The Frankston Databank can be seen as a pilot project within the *SouthGuide* family of information agencies – a project that can be replicated, with local modifications as required, throughout the Westernport region. *SouthGuide* representatives come from public libraries, Citizens Advice Bureaus, TAFE libraries, and voluntary information agencies. After two years of constitutional development, Mr Chynoweth announced the decision to incorporate *SouthGuide* as SouthGuide Information Network Ltd.

Frankston Databank is now installed at the Citizens Advice Bureau, the Frankston Council Department of Community Services and at

Chisholm Frankston Library. It will enable the staff of these service points to provide a faster, more comprehensive service to their users. The databases will be maintained and developed both in the normal course of operations and, when funds can be obtained, in special projects.

The Frankston Databank is investigating the possibility of linking with the work of ITEC – the Information Technology Centre – a Commonwealth-funded training project in the Westernport region as well as with commercial information interests such as newspapers, videotex services, and other publishing ventures.

The electronic format of Frankston Databank has deliberately been made as flexible, yet as consistent, as possible, so that whatever organisational arrangements, or upgraded computer hardware and software, come into play in the future, the data can be converted or manipulated as required.

The hot line number for the Databank is 784 4345.

World experts attend tribology conference

An International Tribology Conference held in December last year on the Frankston campus attracted 90 well-known delegates from 10 overseas countries.

Approximately 150 delegates attended the three-day conference to hear of the activities of about 70 workers in the field. The general topics covered were Surface Engineering, Lubrication Developments, Condition Monitoring and the economic benefit to industry from modern tribology practice.

The conference theme was "Tribology – the means to turn industries' wasted billions into greater profit". Many of the 90 overseas delegates were the celebrated names of tribology and broadening disciplines.

The event was opened by Mr David Skillington, President of the Institution of Engineers, Australia, who was introduced by Dr Geoffrey Vaughan, Director of Chisholm.

The President of the American Society of Lubrication Engineers, Mr George Kitchen, closed the conference and gave an illustration of how economic savings through tribology have grown in recent years.

INTEGRATION REQUIRED

The opening Technical Speaker was Professor Duncan Dowson, FRS, who emphasised that the subject in its now mature phase needed people to move on a broader front to integrate the diverse developing legs of study. This would ensure that material was easily assimilated at the design stage of engineering projects, enabling the principles understood by tribologists to be inherent in the project concept at its outset.

Dr Charles Osborne of the Department of Applied Physics at Chisholm, discussed a paper on Digital Image Processing Techniques on the second day and Mr R.F. Pugh, Head of the Department of Applied Physics, was Chairman of one stream on the third day. One Australian and four overseas speakers gave keynote addresses to all delegates.

TRIBOLOGY DATA BASE

The highlights of the parallel exhibition was the computer demonstration by Dr F.A. Nichols of the Argonne National Laboratory, USA, of a developing data base in tribology encompassing design systems, data services, research in progress, etc., all on a world-wide basis. This is a federally funded, multi-million dollar project and the conference was the first public airing of the system.

The Invited Speaker at the Conference Dinner was Mr Marshall Baillieu, who was introduced by Dr Vaughan. Mr Baillieu is an ex-politician, ex-farmer, who is now a senior manager at CRA. Participants found his combination of message and wit both absorbing and relaxing.

Expert warns on waste disposal practices

Australia must control its mining and landfill practices if it is to avoid pollution to ground water and sediments, according to an international expert on hazardous wastes.

Professor Ulrich Förstner, who recently spoke at a symposium, 'Landfill Disposal of Wastes - Scientific Aspects', says that while we have some capacity to control pollutants such as those affecting surface waters, we still have a lot to learn about the problems of landfill and heavy metal pollutants to groundwater.

In Australia to observe the metal pollution problems from mining operations, Professor Förstner estimated that landfill pollution in Germany will cost the government approximately \$30-40 billion dollars in reclamation projects over the next 10 years.

INTERNATIONAL PROBLEM

According to Professor Förstner the problems of heavy metal and landfill pollution is an international one that can only be solved by co-operation between scientists of different countries. 'Interacting factors contributing to pollution must be solved by more than one scientific method,' he said. 'We must learn how to deal with waste material and abandoned waste fills by using basic research methods to come up with new technologies.'

The Director of the Water Studies Centre at Chisholm, Dr Barry Hart, has a long relationship with Professor Förstner and the Centre is currently working with the Mornington Peninsula and District Water Board on a method of controlling sewage pollution using a reed bed method practised in Europe. (See article this issue.)

Professor Förstner is the Director of



Above, left, Dr Barry Hart, Director of the Water Studies Centre and Professor Ulrich Förstner, Visiting Fellow.

the Division of Environmental Protection Technology at the Technical University of Hamburg-Harburg in the Federal Republic of Germany. He is a recognised world authority on the treatment and disposal of hazardous wastes such as dredge materials and tailings from mining in both water and land environments.

He has served as consultant with many national and international working groups studying the sediment pollution and water quality of various European rivers and the North Sea.

His visit to Australia was sponsored by the Commonwealth Department of Employment, Education and Training under its Australian-European Awards Program. The awards are given to eminent people from Europe whose visit to Australia will promote the dissemination of information, an exchange of expertise and stimulate further research.

The first week of his five week visit to Australia was spent at Chisholm's Water Studies Centre which was his host while here. While in Australia, Professor Förstner met with academics, scientists and technicians from the CSIRO, pollution control agencies in Victoria and New South Wales and visited the Alligator River Region Research Institute and Ranger Uranium Mines in the Northern Territory.

News

ARGS Research Grants 1988

Applicants from the Faculty of Technology were successful in receiving three grants from the Australian Research Grants Scheme (ARGS). The award system operates across Australian academic and research institutions, industry and commerce. The awards were presented to:

- \$5,000 for research of "Thermal and Photo-chemical Reactions of PVC Model Compounds" Dr David Hewitt and Mr Kevin Chynoweth, Department of Chemistry and Biology.
- \$15,000 for research of "Characterisation and Behaviour of Suspended Particulate Material in Fluvial and Estuarine Systems" by Dr Barry Hart and Dr Ron Beckett, Department of Chemistry and Biology.
- \$22,405 for research of "Reflection and Propagation of Impulsive Noise" Dr Charles Don and Mr Andrew Cramond, Department of Applied Physics.

Ceramics News

- Chisholm's expertise in the art of ceramics is in great demand. David Brewer, a third year student, was accepted as a studio assistant at the first International Ceramic Symposium, held at the Canberra School of Art in April.
- Paul Davis, Chris Selwood, Max Murray and Chris Myers, have been invited to speak at the fifth National Ceramic Conference in Sydney, in May. Lars Christensen was invited to demonstrate his computer glaze calculation program, developed during his study for a Graduate Diploma in Ceramic Design.

Chisholm Research Grants

Chisholm is funding a number of its staff in research projects during 1988. The chief researchers of teams and individual researchers are:

Faculty of Technology: Dr A. Campbell "Life Histories of Tropical Mayflies", Dr A. Cramond "Impulse Penetration into Soils", Ms K. James "An Investigation of the Pattern of Consumption of Terrestrial Leaves by Stream Invertebrates", Mr R. La Brooy "Digital Servo System Controllers", Dr G. Ross "Diagnostic Wind Field Modelling – Incorporating Atmospheric Stability Effects", Mr A. Shrivastava "Micro-computer Based Universal CAD/CAM", Mr G. Smith "Stress Transfer Mechanisms in Nailplate Splices of Timber Beams", Dr P. Wells "Specimen Stage in Gamma-Ray Tomography Instrument".

School of Social and Behavioural Studies: Mr D. Evans "Effective Coping Skills Training for Stress Management in Police Officers", Dr R. Francis "Computer Assisted Psychological Testing", Dr M. Jory "Individual Differences in the Perception of the Size of Objects in the Vertical and Horizontal Planes", Mr A. O'Grady "Religion in Communist China", Dr N. White "Men's Interpretation of their Fathering Roles".

School of Education: Mr T. Hill "Metacognition and Calculator Applications", Mr A. Townsend "The Elements of Effective Schools".

Associate Director and Registrar's Department: Mr P. Irvine "The Attrition of Business Students".

David Syme Business School: Ms L. Spatz "Organisational Development – An International Research Project".

Community Services: Ms M. Tisher "The Children's Repression Scale".

The grants will assist staff to undertake new projects or give assistance with continuing projects.

Gallery Notes

- Artists on the staff of the School of Art and Design have begun the year with the following exhibitions held in March: Bill Kelly, prints at Gerstmann Galleries, Richmond; Roger Byrt, paintings at Pinacotheca Richmond; Paul Davies, ceramics at Lawrence Gallery, Sheridan, Oregon. Nick Wirdnam is preparing to show his hand-blown glass in two forthcoming exhibitions at the Meat Market Craft Centre and at Expo '88, Brisbane. Andrea Hyland and Joe Szirer exhibited ceramics at the Maldon Galleries.

- The exhibition space on Level 2, B Block, has been used to show two exhibitions on loan from the Goethe Institute. The first, during February, was on Documenta, a controversial art event in Kassel, West Germany; the second, in March, was devoted to the art of the German Romantic era. The space will be used in April to show paintings by Bill Peperkamp.

Literature Award

Ms Kim Gadd, a student in the Bachelor of Arts program, has been awarded the 1988 Herb Thomas Memorial Award on the basis of her work in Literature Studies. Ms Gadd's high achievements as a Chisholm student have most recently been recognised through the award of a Distinction in Advanced Fiction Writing.

The Herb Thomas award is made to

a student who is interested in pursuing Media or Literary Studies or Creative Writing. Ms Gadd's aim is to be a writer and she is using the Award (\$2,750) towards the purchase of a word processor and to travel to the Bicentennial Creative Writers' Conference in Sydney in August 1988. The Award recognises the enormous contribution made to the Australian regional newspaper industry by Herb Thomas, who for many years was the proprietor of the *Pakenham Gazette*.

Police Chief visit

Mr Kel Glare, Chief Commissioner of Police, visited the Institute late last year on invitation from Mr Richard Snedden, Dean of the School of Social and Behavioural Studies and Mr Robert Smith, Police Studies Course Leader. Chisholm has had a close association with the Victoria Police in recent years through an interest developed with the previous Chief Commissioner, Mr Mick Miller, Fellow of Chisholm. During Mr Glare's visit, it was indicated that the unique course in Police Studies at Chisholm will receive the continuing support of the new Chief Commissioner.

Student fountain opened

Dame Elizabeth Murdoch recently unveiled the commemorative stone accompanying a new solar-powered fountain at the Footscray Institute of Technology designed by a Chisholm Ceramic Design student.

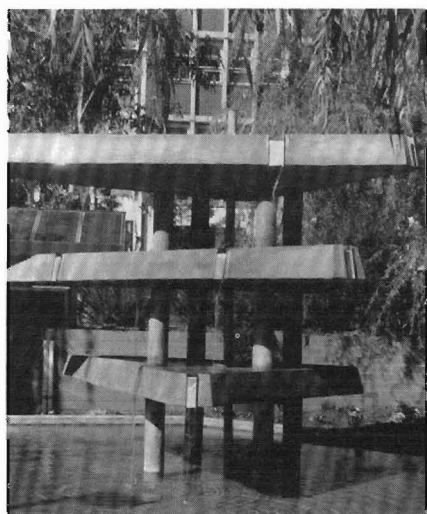
The solar powered fountain was designed by Robert Mills while he was studying for his Bachelor of Arts (Ceramic Design).

The fountain was built and installed to Robert's design by members of the Footscray Engineering Faculty.

Trevor Pearcey House in ACT

A high honour was bestowed on Dr Trevor Pearcey, Fellow of Chisholm, when two new buildings in the new Fernhill Park Estate, a technology park at Belconnen, Canberra, were named "Trevor Pearcey House". One of the buildings will be occupied by NEC Computers and the estate will be gradually developed with an accent on computer technology.

Dr Pearcey attended the opening ceremony and in his address spoke of the significant contribution made by Colleges of Advanced Education to high technology and the range of expertise of staff members in colleges which can be used to advantage in applied research, contract research and consultancy in the drive to increase to nation's skill base.



Right, the solar powered fountain designed by student, Robert Mills.

VPSEC grants

The Victorian Post-Secondary Education Commission has funded four new grants in 1988. These are:

- \$35,000 for a project with the Timber Promotion Council to develop processes for producing finger-jointed glued laminated beams from short lengths of hardwoods which would otherwise be discarded as waste. Principal investigator – Dr H.R. Milner. (See article this issue.)
- \$20,000 for a project with Ajax Fasteners Australia to develop an image processing system capable of inspecting nut threads for 100 per cent quality assurance of nuts and bolts to be used in fully automated manufacturing systems. Principal investigator – Dr C.A. Osborne.
- \$25,000 for a project with ARANDA Applied Research and Technology Pty Ltd to develop an image processing system using microwaves for detecting defects in dielectric materials. Principal investigator – Dr C.A. Osborne.
- \$8,000 for a project with Applied Mathematical Statistical and Computing Services Pty Ltd to develop a software package for forecasting by time series analysis that will incorporate an expert system to select automatically the most appropriate forecasting method for each data set. Principal investigator – Dr M.J. Krautschneider.

New directions in sewage disposal methods

The Water Studies Centre at Chisholm is researching a Reed Bed method for treating sewage from small communities which could have wide ranging benefits for Australia.

The three-year project, costing \$150,000, is under the direction of Mr Tom Davies and Dr Barry Hart of the Water Studies Centre, and Mr Rex Brown of the Mornington Peninsula & District Water Board. It is funded by the Board.

The Reed Bed method of treatment has been widely used in Europe for many years and its recent introduction to the United Kingdom has resulted in about 40 commercial sized beds being installed since 1986, with many more in the advanced planning stage.

HOW IT WORKS

The beds are laid down on an impervious membrane using porous soil about 60 cm deep, so that the wastewater to be treated can pass horizontally through the soil in the root zone of a swamp reed, *Phragmites australis*.

This reed can carry oxygen from the air into the soil through its hollow root system, creating alternating areas in the soil where anaerobic and aerobic bacteria can grow and rapidly break down organic material.

The reeds grow to a height of around three metres and the system works even when, as is common in Europe, it is covered in snow.

Mr Davies has observed the reed bed method in use in Denmark, West Germany, Austria and the United Kingdom and produced a report on the subject last year with implications for its use in Australia.

'Our warm climate with its general lack of snow should

give faster, more vigorous and longer plant and bacteria growth which should improve the rate of treatment', he said.

Nitrogen and phosphorus can also be removed successfully, but studies in Europe show a wide range of removal efficiency depending on the place. Nitrogen and phosphorus affect algae growth in rivers and streams, which is magnified in Australia's warmer climate, thus making the nutrient removal of more value

in Australia than in colder climates.

The research project aims to discover how the reed beds work so that nitrogen and phosphorus, as well as the organic pollutants,

can be successfully removed. Effluent discharges to streams and water bodies could then be made without any harmful ecological effects.

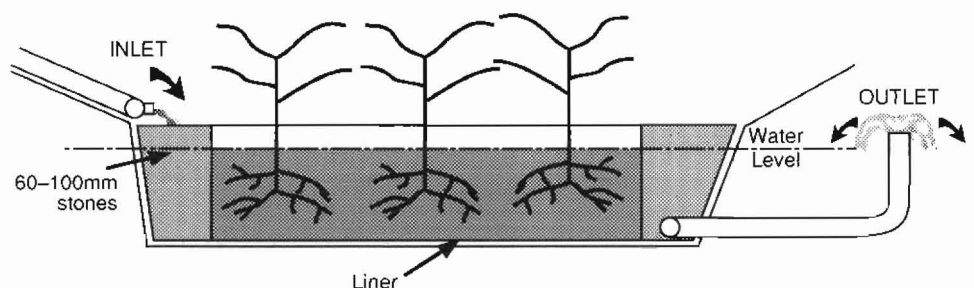
Reed beds will enable effluents to be discharged into the environment without harmful effects.

INSTALLATION

The project will employ at least one full-time scientist who will probably undertake the research as part of the Master of Applied Science.

The beds will take a few months to establish and will be fully effective in three years. Initially, the reeds will be kept wet using effluent from the Mornington Peninsula & District Water Board's normal treatment plant. The nitrogen and phosphorus in the effluent encourages reed growth during this establishment period. The reeds will be gradually introduced to raw sewage in increasing quantities.

The only drawback with this method of treatment is the amount of land needed for the beds. Three square metres are required per person so that a town with a population of 10,000 will need approximately three



Right, a diagram of the reed bed method of treating sewage showing the set-up being used at Mornington.



hectares of land. For this reason it is not an option for metropolitan areas.

If the Centre can discover exactly how the reed beds remove the nitrogen and phosphorous from sewage this method of treating waste will have enormous benefits to areas outside the metropolitan district where land is cheaper and more readily available.

Traditional methods of treating sewage are expensive because the sewage must be removed to treatment plants by extensive pipeline systems.

The reed bed method enables beds to be installed and

Above, Tom Davies, Water Studies Centre, left, and Rex Brown, from the Mornington Peninsula & District Water Board, examine the first planting of reeds for the new method of treating sewage.

run outside towns and in country areas at very little cost. Also, the beds are unobtrusive and do not smell, and compared to pumping effluent into the sea and creeks, are ecologically and politically more acceptable.

Mr Davies hopes that by the end of the three year period the Centre will have significant results, enabling the Board to introduce it on a commercial scale.

Inaugural Pearcey Centre Awards presented



Above, left to right, Louis Cipriani; Doug Burns, Executive Director; Mark Mackojc; John Stirling; Dr Trevor Pearcey; Maria Diamatarias-Toliopoulos; Dr Roy Williams, Dean of the Faculty of Technology; and Suradi Tunggal-Dinata.

The Pearcey Centre held its inaugural presentation of the Pearcey Centre Certificates of Computing on 18 February. The certificates recognise the successful completion of substantial courses and programs presented by the Centre and involve assessment and formal examination.

Although these awards are not recognised by the Australian Council of Tertiary Awards (ACTA) because they are not related to programs funded by government recurrent grants, they are recognised within the computing industry and allow for the recognition of achievement of students undertaking and completing Pearcey Centre courses.

Mr Doug Burns, Executive Director of the Pearcey Centre, introduced Dr Trevor Pearcey, Fellow of Chisholm, who presented an address on the future of computing. Dr Pearcey, inaugural Dean of the Faculty of Technology, is a pioneer of Australian computing.

Comedy Festival competition

The Dean of the School of Art and Design, Jenny Zimmer, was invited to participate in the Comedy Festival cake competition being exhibited at the Meat Market Craft Centre in North Melbourne.

Jenny, along with Ceramic Design students, Rhonda Freeman, Janeen Toner and Harriet Shelton, interpreted the concept for a 'Chisholm Crossword Cake'.

The three-tiered cake was embellished with clues made of marzipan and the public invited to complete an accompanying crossword puzzle. The Cakescape opened to the comedy routines of 'The Hot Bagels' and the music of The Cabbage Brothers.



Above, left to right, Rhonda Freeman, Janeen Toner and Harriet Shelton with the crossword cake entered in the Comedy Festival competition.

Export Development course brings rewards

The International Business Centre, an industry consultative centre of Chisholm, is again running the Export Development Program courses on behalf of the Victorian Government.

Executive Director, Nigel Hamley, said that the program, run for the Department of Industry, Technology and Resources (DITR), provided senior company management and marketing high-flyers with a practical grounding in successful export techniques. The course runs for six months, with two courses per year.

'The Program represents a very interesting interaction between government, the private sector and the educational sector and is being closely watched and duplicated in other States in Australia.

'So far we've run two Export Development Programs, and 24 companies have participated in them. The second Program is currently overseas, and first reports from the participants have been most encouraging, with potential exports to Thailand, Japan, China, the USA and Europe being very likely outcomes,' he said.

'We've been very impressed by the calibre of the executive that has been nominated for the Program, and in the main these are from companies who are really committed to exporting in a big way.

'We are currently interviewing for the third Program which is due to commence in May and for this Program we have attracted applications from a very wide range of companies, ranging from the Commonwealth Serum Laboratories to a company which specialises in making compact discs featuring Australian musical artists.'

BOOST TO EXPORT MARKETS

Robert Fordham, the Minister for Industry, Technology and Resources, recently claimed that the program would boost Victorian exports by \$35 million a year. He said that new export markets were identified by 11 of the course's first company graduates.

GRADUATE SECURES US ORDERS

One of the Program's first graduates is Lawrence Hodson, of Industrial Equipment and Control Pty Ltd, who brought back opening orders of \$35,000 for the company's educational light box

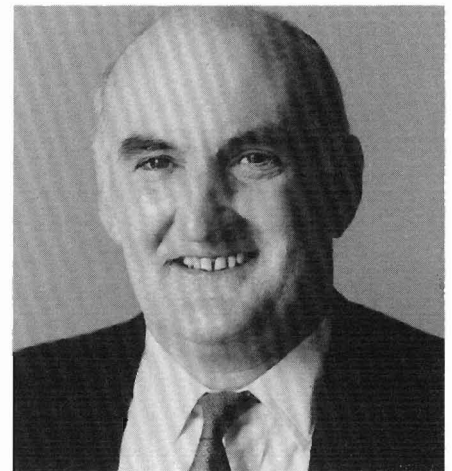
and optical set from a trip to the US as part of the course. He also secured an order from Fisher Scientific for 1,000 units, a ten-fold increase on previous orders. Other orders are imminent.

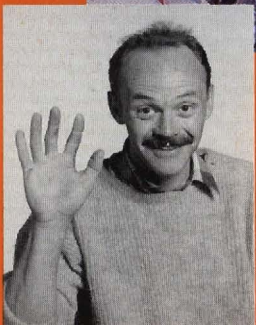
Industrial Equipment and Control also sell microwave transmitters and receivers to Saudi Arabia, and similar items to Taiwan and New Zealand.

'Perhaps the greatest benefit from this course was the opportunity to make personal contacts, secure in the knowledge that we had been well-briefed beforehand,' said Lawrence.

Manufacturing Monthly, March 1988

Below, Nigel Hamley, Director of the International Business Centre at Chisholm.





David Munro, a student in the Department of Fine Art, is majoring in painting for his Graduate Diploma in Fine Art. David, who has worked as a professional painter since completing the Diploma in Fine Art in the early 70's at Caulfield Institute of Technology, calls his painting "Four". It represents the landscape around the Maldon district where he lives and works.