Wealth in talent, but problems loom

The wealth of a university resides principally in the intelligence, industriousness, and contributions of its students, members, and the skills and levels of determination they display in finding and using some of the resources available to help them meet the challenges of human problems whether they be medical, technological, scientific, social or in management.

All these in the form of persistence, drive and a sense of service - they're the essence in the Monash system since students ensure that the university sector's limited and diminishing financial resources are used to their best advantage.

I believe there is no doubt that people associated with Monash possess three creative qualities. The University has achieved international standing in a remarkably short period - little more than two decades. And, what has been confirmed through the AVCC's recent survey, is a continued commitment to research and quality of teaching.

So much for what we have achieved. And this supplement aims to capture the flavor of Monash today - but what of the future?

Monash's financial health is largely determined by the generosity or parsimony of government. Although the present Federal Government is more or less maintaining a constant level of funding in real terms, the rate of increase in student numbers has meant that the income received takes no account of the increasing and inescapable running costs each year due to the ageing of an institution at the end of a period of sustained growth.

PROFESSOR RAY MARTIN

Monash currently has the worst student/staff ratio amongst the Australian universities. Because of the cuts, in the last year we lost 150 positions: if we are not to restore our teaching standards and quality of research will be threatened.

To return, however, to some of the achievements of which this University can be proud.

This year is an important one for publications by Monash authors in diverse fields.

One which may be particularly of interest to Monash graduates is the first full biography of the man whose name this University bears, written by Dr Geoffrey Serle, Reader in History. Last month Sir John Monash: A Biography (Melbourne University Press) earned the author first prize in the 1982 National Book Council Awards.

In his portrait, Dr Serle reveals the man's name alone, which is his starting point in acquiring those attributes of "ability, enthusiasm, drive and a sense of service" of which I wrote earlier.

PROFESSOR RAY MARTIN

If you're a recent graduate, this aerial photograph taken mid-1982 will hold few surprises. But if you were acquainted with Monash in the '60s or early '70s you'll appreciate how the campus has "come on".

New this year is the indoor pool complex, financed from the Union Development Fund and located adjacent to the Sports and Recreation Centre. The pool and associated facilities such as spa and sauna are open seven days a week to Monash students and staff and the general public. If you're in the neighbourhood why not drop in sometime, to see?

How do you remember Monash?

It carries an introduction by Professor David Caro, chairman of the AVCC, and Professor Ray Martin, chairman of the AVCC's research committee. In it, they say:

"Research in Australia today is at risk. The amount we spend nationally compares unfavourably with that outlaid by the developed countries with whom we like to identify ourselves.

"There is no single reason for this state of affairs, and no single answer: Governments are not entirely to blame; nor are those companies - local and overseas-based - which find it more convenient, or cheaper, to import their know-how than to encourage Australian inventiveness and initiative.

"But between them - government and private enterprise - answers can and should be sought."

The problems faced by universities was also the subject tackled by Bob Hawke, Opposition spokesman on industrial relations, in an address to the 16th annual meeting of the Australian University Graduate Conference held at Monash early in the year.

"We are a much less cohesive and stable society than we were a decade ago."

Mr Hawke said that universities would not begin to understand the nature of the problems they faced unless they looked at them in relation to the broader issues confronting society.

He said: "In 1982 we are a significantly less compassionate society than we were in the '60s and early '70s. People are uncertain... they are not sure whether they will be able to retain their own jobs - not certain whether there's going to be a job for their children. They are tending to turn in upon themselves much more; the 'I'm all right Jack' syndrome is more evident.

"We are a much less cohesive and stable society than we were a decade ago."

This is affecting our universities, and we will not begin to understand the real nature of the problems of the universities - what are the right paths we must take to meet those problems - if we think of them as being just the problems of universities, if we see them in isolation from the broader problems of society."
The crime victim loses out—researchers

If you're going to be injured by a criminal (and, more to the point, if you have any say in the matter) you may be better off in the long run if it happens at work while you're helping a policeman.

In such cases the victim of a criminal act may attract compensation in excess of $45,000 under the Worker's Compensation Act or Police Assistance Compensation Act.

In ordinary circumstances, however, the victim can seek compensation under the Criminal Injuries Compensation Scheme established in Victoria in 1972. Here the ceiling is $10,000.

It all goes to highlight the inadequacy of provisions for compensation of victims of crime according to Monash lawyers, Mr Richard Fox and Mr Arie Freiberg. They are conducting research into sentencing law in Victoria under a grant from the Australian Criminology Research Council. Work so far completed includes a study on the law relating to fines and restitution and compensation arrangements for victims of crime.

Irony

The irony is, say Mr Fox and Mr Freiberg, that the latter is concerned with punitively oriented goals and the former with compensatory ones. The latter is concerned with punitive goals and the former with compensatory ones.

The Monash research group, led by Professor Anthony Linnane and his colleague Dr Graeme Woodrow, has concentrated on cloning three interferon genes. Interferon is a key to the body's natural defence against virus infections. The research, which is being jointly supported by the Commonwealth Serum Laboratories and Monash University, involves the use of recombinant DNA (genetic engineering) techniques, and puts Monash in the forefront of world interferon research.

Only a handful of laboratories, mostly owned by private companies, throughout the world have cloned interferon, and much of the work is cloaked in secrecy.

The Monash success was announced on the eve of a three-year trip by the Commonwealth Serum Laboratories of interferon as a treatment of multiple sclerosis, which may be a viral disease. The Commonwealth Serum Laboratories are using "a mixture of partially purified interferon" in their trials. The Monash work opens the way for the eventual large-scale production of "purified, defined" interferon species, which could be much more effective as an anti-viral agent.

Professor Linnane says interferon has also been shown to slow the growth of cellular tumours and may be of use in the treatment of cancer. However, cancer trials continue to function with brilliance and foresight long beyond the time when their main justification would be declining with age or illness.

"Public office should neither be taken nor maintained without basic mental and physical fitness." The necessary power should be dicedly invested in an advisory board that respondents seemed to have almost no perception of how the skills they have developed during their course might be useful to potential employers.

Monash plans aboriginal orientation course

Monash plans to introduce a special year for mature-aged Aboriginal students who could then proceed to undergraduate study. The scheme has been described as an "attempt to break out of a cycle of educational disadvantage at the tertiary level.

The orientation year will operate alongside Monash's Early Leaves' Scheme as pathways by which Aboriginal students can enter the University.

The situation of a special year, however, will continue to function with brilliance and foresight long beyond the time when the major justification would be declining with age or illness.

"Public office should neither be taken nor maintained without basic mental and physical fitness." The necessary power should be invested in an advisory board that respondents seemed to have almost no perception of how the skills they have developed during their course might be useful to potential employers.

"It there were many jobs for which geography was directly relevant then these graduates had little success in locating them. Only two applied for jobs for which geography was a preferred requirement and one for a job for which it was prescribed.

Cancer trials using interferon genes

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Tracking trams by computer

Most forms of public transport in Australian cities are in a bind. On the one hand, they face the problem of containing rising deficit levels. On the other, they are under increasing public pressure for generally improved services. In attempting to meet this demand, the provision of major new services — requiring a massive injection of funds — is usually out of the question. The remaining option, then, is to secure a better performance from the existing system.

But here again public transport authorities face a major problem: it can be a costly business experiment with changes to a system — and risky the price of failure can be inconvenience for thousands of people.

Clearly there has been the need for a tool enabling comprehensive evaluation of a proposed strategy before its implementation in the field.

Researchers in Monash's department of Civil Engineering believe they have now developed such a method, specifically designed for the testing of different strategies in the operation of tram routes using a sophisticated variety of performance measures.

Mr Uqal Vandebonna, a Ph.D. student, and Dr Tony Richardson, a senior lecturer in transport, have developed a computerised model of Melbourne tram routes. For initial demonstration purposes they are studying the no. 70 route which runs between East Burwood and the City, although the model can be adapted to realistically represent any tram route.

Associated with the model is an animated display which allows the researchers to watch on a visual display unit a mini-representation of the movement of vehicles along the route.

Appropriately enough, the model is known as TRAMS — Transit Route Animation and Modelling by Simulation.

Dr Richardson says that recent tests in the field have confirmed the model's realism. Now, he adds, it is at a stage where it can be used to quantify the effects of changes in strategy — say, of changes in tram design or of introducing co-ordinated other tram services.

The model allows the evaluation of change using a wide range of performance measures, including average unit travel time, the average passenger waiting time at tram stops, the average bunch size of tram platoons and the probability of a passenger not obtaining a seat in the tram.

Already TRAMS has been used in a study on right-turn traffic strategies in relation to the movement of trams.

The study confirmed the obvious: right-turning traffic at signalised intersections delays trams.

But it also turned up another, surprising result which the researchers say should be considered both for or against permitting such right turns: as the volume of right-turning traffic increases above a moderate level there is a decreasing tendency for trams to "bunch" and then run together.

Controlling anxiety — without drugs

Biofeedback techniques are an effective way of controlling chronic anxiety without the aid of drugs.

But just as effective, it seems, is learning how to relax, or simply sitting quietly in a room for 20 minutes each day.

These surprising findings have emerged from a series of studies on anxiety conducted in the department of Psychological Medicine at Prince Henry's Hospital by Dr John Tiller, research assistant Nola Biddle and senior technical officer, Suwan Opasomkorn.

Taking part in the studies were people who had suffered from chronic anxiety for many years — in some cases more than 14 years. At the same time they were taking anti-anxiety drugs at the time of interview.

Symptoms

In the first of the 10-session studies, Dr Tiller chose 59 people whose symptoms filled the criteria for long-standing generalised anxiety. They were divided randomly into three groups.

The first group were measured for physiological symptoms of anxiety, such as heart rate, forehead muscle tension, skin temperature and skin perspiration level, and were then trained in biofeedback techniques. The training consisted of learning to control anxiety by modifying a tone that reflected muscle tension in the forehead.

The second group were prepared as if they were to receive biofeedback, but they did not hear the tone. They sat quietly in the room and were simply measured for the physiological accompaniments of anxiety.

The third group simply sat quietly in a room with their eyes closed for 20 minutes. After the 20-minute session patients in all groups were asked to go home and practise sitting quietly for 20 minutes each night.

Progress

The patients' progress was measured by clinical assessment, self-reports and further physiological testing at the end of the five-week program. Seventy per cent of the patients in all groups showed a sustained reduction in anxiety, both by self-report and physiological measurements.

The improvement was not a temporary one as is the case where it is due to a placebo effect, Dr Tiller says. The patients in the Monash study were followed up at intervals over two years, and in most cases the improvement continued.

Breast feeding — a ‘push button’ contraceptive

What has come to be regarded in the West as an old wives' tale is true. Breast feeding has the potential to be a form of contraception — one of particular importance in the developing world.

This is according to an international authority on human reproduction. Professor Roger Short who this year was appointed to a chair in the departments of Physiology and Anatomy. Professor Short comes to Monash from the British Medical Research Council's Unit of Reproductive Biology where he was Director for 10 years.

He says that a new appreciation of Nature's way of controlling the spacing of births (by up to four years) is the single most important contribution that could be made towards containing the world's population explosion in the immediate future.

The key to the link between lactation and contraception lies in sensory nerve endings in the nipple itself. These are connected to the brain. When a baby suckles, a message is transmitted from the nipple to the brain, triggering reflex responses. One of these inhibits the uterine gland which in turn controls the ovary. Ovulation will not occur if the breast is sucked frequently enough.

Professor Short says: "The breast is a superb push-button contraceptive. But it only works provided that you keep pushing the button. Now we have to discover just how often that is.

A study including new mothers in Melbourne, being conducted in association with the Nursing Mothers Association of Australia, could provide the answer.

In the hunter-gatherer societies and among apes in the wild — groups in which "lactational amenorrhoea" is maintained for the long periods — offspring will feed to four times an hour. Each feed lasting only one or two minutes.

Most importantly, in these groups the mothers sleep with their babies at night. The infant's frequent sucking may be even though the mother does not wake.

Night-time feeds

In the West, night-time feeds are given up as soon as possible. The concern is that effect of lactation in such circumstances has been minimal.

Professor Short acknowledges that breast feeding as a birth control measure might hold only limited appeal in developed countries where artificial contraception is freely available.

But anything which can regulate the fertility of women in developing countries who have no access to artificial contraception should be of overriding significance.

Traditional practices of suckling children should be encouraged in these countries. Professor Short says. At the same time he advocates the restriction of sales of feeding bottles and powdered and condensed milk in less developed countries (as in the case in New Guinea where they are available only on medical prescription).
Prof. E. A. Glen Hocking, is quick and simple. the Pathology and Immunology have shows diagnosing early cancer. seven Australian universities.

Rolland, wealth Special Research Centre under the Federal Government's Program for the Dean. Emeritus Professor Don Cochrane, Michael Porter, was established three professor of economic history at Flinders taught at Melbourne and La Trobe univ-

ersities.

Professor W. A. G. Scho
departments in the Arts faculty.

A 3-way attack in syphilis research

Three approaches are being explored in a Monash research project on syphilis, one aim of which is development of a vaccine against this dangerous venereal disease.

The work is being carried out at the Alfred Hospital by a team in the Microbiology department under the supervision of Professor Solly Fain.

Although syphilis, once diagnosed, can be cured relatively easily with penicillin it is considered important that a vaccine be developed. This is because symptoms of the disease can go undetected or be mistaken for those of other complaints in its primary and secondary stages. Syphilis can then lie seemingly dormant for many years but, in some instances, can cause serious damage to many parts of the body leading ultimately to death.

The Monash team believes that the bacterium which causes syphilis, Treponema pallidium, produces a substance — an immunosuppressive molecule which inhibits the immune response in some way.

One of the approaches being tried is the removal of that component from the bacterium, opening the way for the remainder of it to be used in a vaccine.

Graduates' Association

The Monash Graduates' Association were hosts this year to the annual Australian Universities Graduate Conference, which was held at Monash from February 10-14.

A disappointing feature of the conference was the poor support of Monash graduates.

Appealing for more interest from graduates in their organisation, the MGA committee points out that once students graduate and leave campus life there is an immediate dispersal of the common interest on which popular attendance at regular meetings depends.

The committee sees its role as an important inter-communication link agency if the Association is to develop effectively.

The committee says a more general type of interest focus has become apparent amongst Monash graduates in some country areas.

In Albury and surrounding centres from Corryong to Wagga Wagga there are about 150 Monash graduates and several are working on or supporting important community projects: a successful drug rehabilitation centre and an impressive youth hostel are two examples.

In June this year Professor John Swans organised a meeting of the Albury district graduates and interested community leaders and arranged a weekend visit to Albury by Monash staff members and the committee of the MGA.

"This served very successfully to promote the collaborative efforts of the graduates and stimulate the local community reaction to them," the committee says.

EARLY this year Monash's Centre of Policy Studies was designated a Commonwealth Special Research Centre under the Federal Government's Program for the Promotion of Excellence in Research. It was one of 10 centres so nominated at seven Australian universities.

The Centre, directed by Professor Michael Porter, was established three years ago to study key economic, social and political issues facing Australia.

PROFESSOR William Angus Sinclair, professor of economic history at Flinders University, has been appointed Dean of the faculty of Economics and Politics, He will start the job early next year.

Professor Sinclair is a stranger to Monash. He was appointed senior lecturer in Economics here in 1963. He has also taught at Melbourne and La Trobe Uni-

versities.

THERE were changes at the top at Monash in 1982.

Professor Kevin Westfold, a mathe-
matician and astronomer and one of the original members of the Monash academic body, was appointed Deputy Vice-Chancellor, succeeding Emeritus Professor W. A. G. Scott who retired at the end of 1981.

* * *

Professor Kevin Westfold

Professor Kevin Logan, of Geography, was appointed part-time Pro-Vice-Chancellor, a position previously held by Professor Bruce West who returned to full-time scholarly work in the Chemistry depart-

ment.

Next year Monash will have a new Chair in History, coming to Monash from Melbourne University. Professor Davidson's best-known work perhaps is "The Rise and Fall of Marvellous Melbourne". He is now helping prepare a book which will give an insight into the less marvellous Melbourne of the late 19th, early 20th centuries.

Also from Melbourne University came Professor Margaret Plant to a Chair in Visual Arts. Her predecessor, Patrick McCaughey, took an appointment as its tenor of voice, cause severe damage to many parts of the body leading ultimately to death.

The committee sees its role as an important inter-communication link agency if the Association is to develop effectively.

Professor Keighley succeeds the founding executive head of the department of English literature at the University of Melbourne. Her predecessor, Patrick Plant's research Interests range from frescoes painted by Italian artists in the late 19th, early 20th centuries.

"This served very successfully to promote the collaborative efforts of the graduates and stimulate the local community reaction to them," the committee says.

Professor Clive Probyn, formerly head of the department of English literature at the University of Melbourne, took the Academical Chair in English left vacant by the death of Arthur Brown.

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MONASH professor of Law, Professor Louis Waller this year took up a two-year appointment as Victorian Law Reform Commissioner.

Since the office was established nine years ago the Commissioner has reported on a number of matters chiefly to do with procedure and finance in the courts.

One of Professor Waller's first tasks was to chair a committee of inquiry into in vitro fertilisation set up by the Victorian Government. The committee's first report, qualified approval to IVF techniques in overcoming infertility.

Last month Professor Waller left for China as part of a five-man delegation of experts on Australian criminal law and procedure. Also, a vaccine portion, which held dis-
cussions with members of the judiciary, the police and the community leaders in central and eastern China.

Mr Justice McGarvey of the Supreme Court of Victoria was a member of the delegation. Also, Judge Peter Rendett of the County Court of Victoria, Mr Richard Fox, Reader in Law at Monash and Mr Mark Weisberg, Reader in Law at Melbourne University (and a Monash graduate).

At the moment, samples used in research are obtained from rabbits but there are several drawbacks to this.

For a start, it would be desirable to avoid using experimental animals. Furthermore it has not enabled researchers to work with the huge quantities of bacteria needed for full-scale experimentation or to manipulate the organism in ways which may render it useful as a vaccine.

After six weeks the bacteria produced from bacteria grown in a rabbit may cause an adverse reaction on injection into humans because of the foreign protein that would be present.

The difficulty in growing T. pallidum in vitro lies in it having certain biosynthetic functions. Because the organism has existed for so long, it appears to have lost the ability to produce enzymes for detoxifying oxygen, relying on enzymes from the host of this tissue. Away from the host, oxygen kills the bacterium.

The third task being taken in the project is developing a vaccine from a bacterium akin to T. pallidum. This project has approaches the use of a virus derived from cowpox to give protection against syphilis.

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