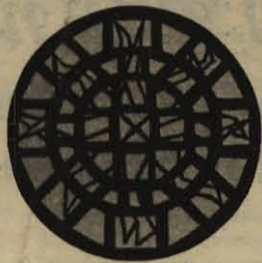




MONASH REPORTER

A MAGAZINE FOR THE UNIVERSITY

Registered for posting as a publication, Category B.
NUMBER 9-80 NOVEMBER 5, 1980



Monash Review

What's New in Education, Research and Community Service

SOUND

THE OFFICIAL BROADSHEET OF MONASH UNIVERSITY



Monash Reporter

Graduates' Issue

This November issue of *Monash Reporter* — the last for 1980 — is being mailed to all Monash graduates in an effort to keep them informed of activities at the University and rekindle memories (for the better, it is hoped).

In a 'wrap-around' to the news pages of 'Reporter' we include a *Year In Review* section which seeks to present a 'slice of life' for 1980.

Items of particular interest to graduates have been taken from issues of 'Reporter', *Monash Review* and *Sound*, publications of the Information Office.

We trust 'Reporter' finds a favoured reception among today's batch of unsolicited mail!

In vitro fertilisation — first local success

Monash University scientists and clinicians from the Queen Victoria Medical Centre and Royal Women's Hospital this year achieved Australia's first successful pregnancy as a result of fertilisation of the mother's egg outside the womb.

The researchers believe this work could also lead to improved methods of contraception.

The team fertilised the woman's ovum with her husband's sperm in the laboratory and successfully transferred the embryo back into her womb.

The woman, 26 year-old Mrs Linda Reed, of Churchill in Gippsland, gave birth to a baby girl, Candice in June.

Principal organisers of the program, which involved more than 40 doctors and researchers were Monash scientists at the Queen Victoria Medical Centre, Professor Carl Wood, Associate Professor John Leeton and Dr Alex Lopata (now at Royal Women's); and Mr Ian Johnston, of The Royal Women's Hospital.

On the separate but related issue of artificial insemination by donor, Professor Wood has just edited a book which deals with the medical, genetic, social, ethical and legal aspects of AID.

AID has been an accepted practice in Europe and the United States for many years but it is only in the last decade, with the declining number of adoptable babies, that it has been widely practised in Australia.

About 600 couples are now treated in



● Dr Ian Hoult uses a laparoscope to collect an egg for fertilisation outside the womb. The laparoscope enables the surgeon to guide a suction needle to the egg.

this country each year with a success rate of between 50 and 70 per cent.

In a section on law in the new book, a senior judge of the Family Court of Australia, Mr Justice Asche, writes that the legal problems arising from artificial insemination by donor semen are so far-reaching and, at present, so complicated that only clear and precise legislation can clarify the situation.



● The new organ in Robert Blackwood Hall. Sir Louis and Lady Matheson at its inauguration ceremony.



Tribute to 'Matheson years'

The Governor-General, Sir Zelman Cowen, inaugurated the West German-built Louis Matheson Pipe Organ in Robert Blackwood Hall in April.

In the audience for the occasion were donors to the organ appeal which raised \$325,000 to fund the instrument. It commemorates the work of Sir Louis Matheson, Monash's first Vice-Chancellor. Special guests were the builder, Herr Jurgen Ahrend, and his wife, Ruth, who flew from their home in Leer in the Federal Republic of Germany for the opening festivities. It was a return visit for the Ahrends who, with a small team, installed the organ in the Hall in the first months of this year.

Organist at the inaugural recital was John O'Donnell.

In his address, Sir Zelman said: "(Sir Louis) served the University with dedication and with great ability; he seized the available opportunities to develop its

strength in staff, resource, teaching and research. Within a very few years, it grew into a university of high national and international standing. That is a great achievement, and it is his great and enduring monument as Vice-Chancellor."

In his speech, Sir Louis said that there were exciting prospects for bringing the RBH organ into full and effective use.

He said that it would not be an easy task to exploit the instrument's potential to the full.

But, he said, "a challenging opportunity can be perceived; let us hope that someone emerges to turn the vision into reality."

Sir Louis said that the organ together with the brilliant acoustics of Robert Blackwood Hall could make the Hall the focal point of a great annual music festival, such as Glyndebourne in England.

Early in the year also, Sir Louis Matheson's book, *Still Learning*, was published by Macmillan.

The book covers in detail Monash's early years — when the University "had to claw its way into an unsympathetic world" — and includes a section on the years of student unrest.

In reviewing "Still Learning" for *Monash Reporter*, Emeritus Professor Hector Monro (one of the first professors appointed to Monash — in Philosophy) wrote: "In retrospect Matheson has some doubts about his own behaviour: he wonders if he allowed himself to become too personally involved. I do not think that his colleagues will share those doubts. In circumstances which could hardly have been more inimical to it, he managed to maintain the proper spirit of a university."

In the book Sir Louis says that he was slightly disappointed that Monash, as a new university, was not more innovative: it became "the last of the old universities rather than the first of the new".

'Way back' for science graduates

The faculty of Science is offering refresher or retraining courses for graduates in science.

The proposal follows discussions within the faculty on a commitment to the ongoing education of science graduates (not only from Monash University) other than those formally engaged in postgraduate work.

As faculty Dean, Professor John Swan, says: "The faculty believes that there must be many people who graduated in Science some years ago who would like an opportunity to update their knowledge, particularly in relation to a desire to take up employment in a science-based industry, or to move from one course of science specialisation to another."

Among the types of graduate the faculty

believes may be interested in such courses are the following:

● Women graduates who have just finished some years devoted to rearing a family and who now would like to brush up their knowledge in science with a view to entering some position of employment.

Subject change

● Graduates who are school teachers but who now wish that they knew enough Physics, say, to teach that subject rather than Biology, say, which they now teach — teachers in Biology being in a situation of oversupply on the market at the moment.

● Graduates who have kept up an interest in or who use their special subject but who

know now that their own knowledge is far out of touch with modern developments in the subject.

The faculty is not proposing a set retraining or refresher course. Rather, after full discussion with the graduate, a study program tailored to the individual's needs will be drawn up, it has been proposed.

In the first instance inquiries should be directed to the Secretary, Faculty of Science, Monash University, Wellington Road, Clayton. 3168. (Ph. 541 0811 ext. 2555).

Inquiries should be identified: "Refresher Courses for Science Graduates". Attached should be a record of the graduate's degree course and information about present needs in relation to further study.

'Restrictions pose a real threat — but, overall, 1980 not a bad year'

It is too early yet, perhaps, to assess fairly, accurately and objectively the year now drawing to a close, but in a world that's changing ever more rapidly one must monitor trends and developments more or less as they happen.

In this brief report to graduates, it would not be particularly fruitful to dwell on the problems and irritations of the past 12 months — except, perhaps, to reiterate as forcefully as possible my conviction that sooner or later governments must re-examine their priorities in relation to education funding lest irreparable damage occur.

The signs are there, and — to repeat a phrase I used in an interview with *Lot's Wife* during the year — we are slowly haemorrhaging as a result of the restrictions imposed upon us. It's not easy to persuade the public or the politicians that that is something to worry about — but it's very real.

Nevertheless, in spite of our financial problems, I think we have shown this year that we do retain a positive outlook... we have made significant advances in a number of areas, and I believe there's every reason to look to the coming year in a spirit of guarded optimism.

Let's look at some of the pluses of the past 12 months:

- Early in the year we had the inauguration of the magnificent new Ahrend organ in Robert Blackwood Hall — an acquisition that has greatly enhanced the Hall's value as a concert venue and strengthened the Uni-

By the Vice-Chancellor, Professor Ray Martin

versity's already impressive cultural links with the community.

- During the year, the Monash-Queen Victoria in vitro fertilisation research team registered a major triumph with the birth of Candice Reed, Australia's first 'test-tube baby'.

- The University Library acquired its one millionth volume, marking its growth rate as the fastest in Australia. Most other major libraries have taken more than 100 years to reach that target, compared with our 20 years.

- Monash continued to attract a high proportion of available research funds. It currently ranks fourth among Australia's 19 universities in terms of ARGC funding — a tribute, I think, to the strength of our research effort.

As this issue of *Monash Reporter* goes to press, three events are in progress — or in prospect — that graphically underline some of the concerns at present exercising our minds.

They involve a workshop approach to three very different, but critically important, issues in which Monash is exhibiting a high degree of expertise and initiative. They are:

- A workshop arranged by our Higher Education Ad-

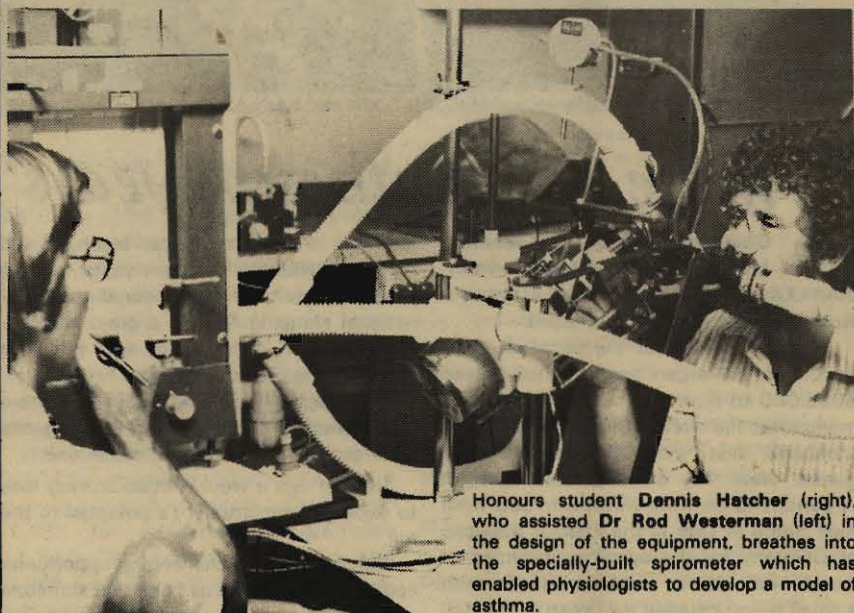
visory and Research Unit on the mature age student' — the social conditions that have given rise to their growth, and the ways in which universities and colleges must structure their procedures to adapt to the new demands.

- A proposed national seminar, arranged by a consortium of Australian companies, the Australian Institute of Political Science and the Australian Institute of Management, to evaluate — and perhaps act upon — the findings of a Monash study on Secondary-Tertiary Education Planning (STEP), which raises urgent questions about the preparation of secondary students for further study.

- An international Special Education Workshop, sponsored by the Australian Development Assistance Bureau and involving our Krongold Centre for Exceptional Children. This has brought together educationists, educational planners and administrators from 14 different Asian and Pacific countries in an exciting and imaginative enterprise that highlights Monash's increasing commitment to the international community and its increasing acceptance on the world scene as a centre of excellence.

These developments — and many others, such as are reported in these pages — are heartening evidence of a healthy state of affairs, and indicate a lively appreciation of what the community expects of us and of the ways in which we can respond.

All in all, I think 1980 has not been a bad year...



Honours student Dennis Hatcher (right), who assisted Dr Rod Westerman (left) in the design of the equipment, breathes into the specially-built spirometer which has enabled physiologists to develop a model of asthma.

Breath of hope on asthma

Monash physiologists have produced a model of asthma in normal people which could lead to improved non-drug methods of alleviating the distress associated with the disorder.

Chronic obstructive disease of the air passages affects one in 10 people in Australia. The most prevalent of these distressing conditions are asthma and emphysema. Common symptoms are sensations of choking and increased effort in breathing.

Physiologists have suspected from many fragmentary clinical and research observations that the choking sensations and the person's awareness of increased effort in breathing arise mainly from signals received by the brain from sensory receptors in the many muscles which come into play when the airways are obstructed.

The problem is to identify the most important receptors and their location. With their model of asthma, the Monash physiology team, led by Dr Rod Westerman, has taken the first step towards this goal.

The research so far has been done with

equipment developed in the Physiology department at Monash, but is to be transferred to the lung function unit at the Alfred Hospital, where Dr Westerman will continue it under clinical conditions.

Once the muscles most responsible for signalling the distressing information to the brain are identified, he says, it should be possible to partly alleviate the patient's distress by suitable physiotherapy, relaxation or bio-feedback techniques. Such physical therapy could also enhance the effectiveness of currently used drugs.

Caution urged on 2,4,5-T use

Researchers in the Monash Pharmacology department have found that relatively small doses of the herbicide 2,4,5-T can cause behavioural abnormalities in chickens.

The abnormalities are expressed as increased fear and retardation in visual discrimination learning.

The doses are below those needed to

Australia's geography — 450 million years ago

During the late Ordovician period, about 450 million years ago, when the first vertebrates appeared on Earth, south-eastern Australia was a deep ocean basin.

From central-northern NSW southwards into north-eastern Victoria there was a chain of volcanic islands, an island arc, along which coral reefs were growing.

Antarctica lay adjacent to south-eastern Australia and remained that way until about 55 million years ago when the two continents started to move apart.

Tasmania, in the late Ordovician, was a broad shallow marine shelf with localised reef masses.

This picture of south-eastern Australia from 466 million years ago to 446 million years ago — a "time slice" of 20 million years in the Earth's geological history — emerges from research by Monash geologist Dr Ray Cas, Dr Keith Crook, of the Australian National University, and Dr Chris Powell, of Macquarie University.

Dr Cas has been attempting to reconstruct the geography of the region from about 600 million years ago to about 300 million years ago. The research stops at 300 million years when south-eastern Australia had evolved into a geologically stable continent.

In their attempt to construct a palaeo-

geographic history of the south-eastern Australian region, Dr Cas and his colleagues have examined exposed rocks and sediments and other geological data, and compared the emerging picture with the geography of various regions today.

The Ordovician picture of south-eastern Australia is very similar to a north-south reversed profile of the Andaman basin today, Dr Cas says.

The Andaman basin in the north-east Indian Ocean includes the Andaman and Nicobar Islands, formed from submerged mountain ranges which extend from Burma through Sumatra and Java to the Little Sunda islands.

"What we have in the Andaman basin system," Dr Cas says, "is a line of islands fringed by prolific coral reef systems."

"If you use a bit of sleight of hand and transpose north and south and compare the picture with that of south-eastern Australia in Ordovician times, you will see that the two regions are essentially equivalent."

Research on Roberts' art

Some of the best works of Australian painter Tom Roberts — the prime mover in the famous Heidelberg School — are "hidden" in private collections.

And at least two works in major public collections are fakes, or, at least, have been wrongly attributed to him.

This re-appraisal of one of Australia's greatest painters is the result of research by Ms Helen Topliss, a senior tutor in the Monash department of Visual Arts.

The result of her research will be published by Oxford University Press as a fully illustrated, two-volume critical catalogue of the painter's work — the first of its kind on any Australian artist.

The health of graduates' bodies

Two relatively new bodies representing 'special interest' groups of Monash graduates are reporting considerable success in gaining new members.

The groups, which are seen as complementary to the long-established Monash Graduates' Association, are:

- The Association of Monash Medical Graduates, and
- The Master of Administration Graduate Association.

News of the activities of the two bodies was reported to an informal meeting of interested on-campus parties chaired by the Warden of the Union, Graeme Sweeney, last month.

Dr Richard Dargeville, president of the Association of Medical Graduates, said his association now had a membership of 260 (out of some 1500 medical graduates).

It publishes a regular newsletter, this year conducted a well-attended annual meeting (addressed by Emeritus Professor Rod Andrew, founding Dean of the Medical Faculty), offers a prize for an outstanding first-year student (voted on by students themselves), and is considering a scheme to provide financial assistance to needy students. Other activities are strongly profession-oriented, and

there's considerable self-help — in matters such as giving advice on setting up practice.

Professor Peter Fitzroy, of the department of Administrative Studies, said that the Master of Administration Graduate Association was attracting a number of people who wanted to maintain contact with the department and was serving as a forum for professional development.

In the past year the association had held three meetings, of a professional nature, with guest speakers. Attendances had varied from 40 to 60, out of a total of 250 graduates.

Other bodies in the University that maintain contact with graduates include the Halls of Residence Association and the Mechanical Engineers Club which, although consisting principally of undergraduates and graduate students, frequently conducts social and technical-type functions to which graduates of the department are invited.

The Monash Graduates' Association reports that it is currently preparing a brochure listing the services and facilities available to graduates, and containing a useful guide to university residential accommodation in other states.

Details on Monash Graduates' Association's annual picnic:

DATE: Sunday, December 7.

ARRANGEMENTS: We meet on the shores of Lake Wendouree, Ballarat, at 12 noon. On arrival guests will be greeted by members of the committee.

WE PROVIDE: A bush band, country style voices and dancing.

YOU BRING: A picnic lunch, glasses and something to sit on. If you wish to barbecue your lunch please bring your own barbecue.

THE KIDS: Of course, there are special races just for them. In fact, bring everyone you know.

COST: \$2.50 per head (children free).

R.S.V.P. By Wednesday, December 3, for tickets and a location map. Send cheques to Mrs V. Thomson, Information Office, Monash University, ph. 541 0811, ext. 2002.



● Diving for kelp, King Island

Study to help kelp industry

A team of Monash botanists last summer started a research project on kelp — an enormous brown form of seaweed — which could be of long term benefit to the Australian kelp industry.

The industry is based largely on King Island in Bass Strait and the research is being supported by the island's Kelp Harvesters' Association and other sources.

Senior lecturer in Botany, Dr George Scott, says that the pilot study over three years will aim to discover something of the biology and ecology of kelp (*Durvillaea potatorum*) about which little is known in Australia.

The commercial importance of kelp is as a source of alginates — the salts and derivatives of alginic acid, the material of which the cell walls of the plant are constructed.

Long solar swims

Monash research has shown that you can extend the swimming season in your backyard pool as long as you like, simply by using a plastic pool blanket.

Provided, of course, that air temperatures are reasonable — around 20 degrees C.

Plastic blankets — thin plastic sheets welded together by heat or ultra-sound techniques and containing air bubbles — float on the surface of the water.

They produce "a very significant improvement in water temperature", according to Monash physicist Dr Logan Francey.

Dr Francey and post-graduate physics student Peter Golding have been testing the strength and heat retention properties of various blankets at the request of manufacturers.

Four new honorary graduates

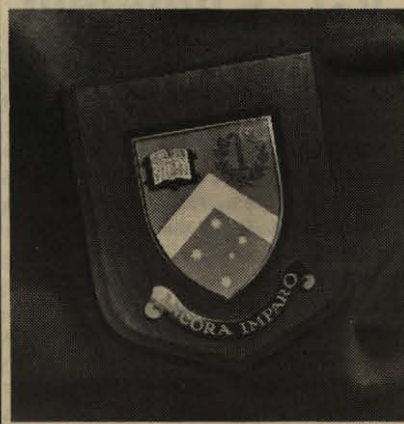
Victoria's Governor, Sir Henry Winneke, and the artist Fred Williams were two of four people to enter the ranks of those holding honorary degrees from Monash this year.

The others were Emeritus Professor Archie McIntyre, professor of Physiology at Monash from the department's foundation in 1962 until his retirement in 1978, and Mr Ian Langlands who retired as Deputy Chancellor of Monash in March. Mr Langlands had had an unbroken association with the University since its inception, first as a member of the Interim Council and then as a member of Council.

Sir Henry Winneke is also Monash University's Visitor — a role he explained in his occasional address.

Several of Fred Williams' works are in the Monash collection, including his portrait of Monash's first Vice-Chancellor, Sir Louis Matheson. A book on Dr Williams' work by professor of Visual Arts at Monash, Professor Patrick McCaughey, is due for release this month.

University coat of arms wall plaque



Monash Graduates' Association has undertaken distribution of a new high quality wall plaque featuring the University coat of arms in embossed brass and rich, hand-applied enamel.

The coat of arms is mounted on a teak panel and would make a handsome graduation, Christmas or special-occasion gift.

The Association will arrange to mail the plaques to Monash graduates for the special price of \$22.50.

The price includes packing and postage, and your order will help to support the activities of the Association.

Cheques should be made payable to 'Monash Graduates' Association' and sent, together with your name and full address, to:

Monash Graduates' Association
c/- Mrs Vicki Thomson
University Offices
Monash University
Clayton, 3168
Victoria

Plaques will be delivered within about five weeks of receipt of your order.

Distinguished visitors

'Victims' of positivism?

A distinguished Australian historian, Mr Hugh Stretton, launched an all out attack on positivism in the social sciences which flourished in the '50s and '60s — labelling it "a technical mistake and a social and political disaster."

Mr Stretton is a reader in History at the University of Adelaide and delivered the sixth Oscar Mendelsohn Lecture at Monash.

The basic positivist idea is that social science could and should aim at a purely objective knowledge of the world — our knowledge of society should be a passive, descriptive sort of knowledge which does not in itself recommend anything or value anything or approve or disapprove of anything.

In the lecture Mr Stretton traced the effects of positivist teaching — which stressed that science should deal only in the objective "is", never in the subjective "ought", and that social valuing, choosing, policy-making, and all the diverse opinions about right and wrong should be excluded from science — to some of society's current problems.

For, he said, although the positivist ideology had been largely discarded, members of the generation "saturated"

with it were now reaching the top of their career ladders and beginning to exert an influence on the world.

It was not fanciful to see the effects of those decades of "brainwashing" in the hard-faced, uncaring class selfishness and professional selfishness to be found now in the affluent ranks of the professions, the Public Services and the universities.

If there is a characteristic difference between Japan and countries such as the United States and Australia in their approach to the law it is that the Japanese resort to it less frequently.

A visiting professor of Law for several months in 1980, Professor Mitsuo Matsushita, of Sophia University in Tokyo, said that the Japanese tend to be more conciliation-minded than litigious.

Professor Matsushita said that these different approaches can, at times, lead to difficulties in international dealings.

Professor Matsushita was Monash's first visitor under the new Australian Vice-Chancellors' Committee Fellowship Scheme.

Enrolments in schools: study

Monash's Centre of Policy Studies has received a \$27,000 grant from the top-level Australian Education Council to conduct a study on changing patterns of school enrolments and the implications for educational policy and management.

The investigation will identify a range of policy options for schools and Education Departments facing opportunities — as well as problems — because of population mobility and declining birth rates.

The Australian Education Council is formed by the Education Ministers of the six States, the Northern Territory and the Commonwealth.

This is the first "outside" project to which the Council has granted funds.

Monash's Centre of Policy Studies was established nearly a year ago. It has a staff of nine, including five economists, and has access to specialist staff within the faculty of Economics and Politics and in other faculties when needed.

Monash surveys

On life as a student . . .

A smaller percentage of Monash students than the national institutional average would appear to be receiving funds from TEAS or any other formal financial assistance scheme.

This information comes from preliminary results of a survey of tertiary student finances conducted by the Federal Department of Education late last year.

The survey, which was conducted with a sample of full-time students enrolled in other than higher degree courses, found that 29.9 per cent of Monash respondents received money from TEAS compared with an "all institutions" average of 41.2 per cent. At Monash, 63.8 per cent recorded no support from a formal financial assistance scheme; the "all institutions" figure was 42 per cent.

Caution has been urged in interpreting some of the data produced by the survey because of the relatively small sample sizes. For Monash, 177 students (of the 253 sampled) returned usable questionnaires — about 1.6 per cent of the total body.

The survey found that the average annual income of Monash respondents was \$2,605.41 and the average annual expenditure \$3,170.80, making an excess of expenditure over income of \$565.39. The "all institutions" average income was \$2,866.52, expenditure \$3,257.22, and excess of expenditure over income \$390.70. The income figures include cash loans but exclude use of savings and sale of assets.

The survey also contains information on the composition of the student population and points out some interesting differences between the Monash respondents and the "all institutions".

For example, 15.8 per cent of Monash respondents were overseas students; the "all institutions" figure was 3.9 per cent. A total of 41.8 per cent of Monash respondents attended a state school compared with a national figure of 60.3 per cent.

And Monash would appear to have a higher proportion of students who enter the University the year after they matriculated: 76.8 per cent compared with an "all institutions" figure of 70.1.

Going rate for starters

What is the "going rate" for new graduates?

Early this year Monash's Careers and Appointments Service set about establishing a reliable yardstick on starting salaries. It surveyed some 160 graduate employers and received responses from 96.

The survey found that economics graduates majoring in accounting are "poor cousins" in the starting salary stakes. The average starting salary for such graduates (based on figures supplied by 65 respondents) was \$11,305. This compares for example, with an average salary of \$11,604 for an employee with a BA with a major in the humanities disciplines; \$12,031 for an Arts/Law graduate (\$11,640 for Economics/Law); and \$11,869 for a Science graduate who majored in chemistry.

The survey found that the top price paid for pass graduates was \$14,600 — in Law. At the other end, a number of graduates from several areas including Arts,

Economics, Law and Science had a starting salary of less than \$10,000.

An honours degree brought the average starting salary of an employee up by about \$600 to \$700 a year. It was less significant for Engineering graduates, however, and brought up their starting salaries by \$380 to \$450 a year.

Salaries for honours graduates ranged from below \$10,500 (in Economics and Law) to \$15,200 (Law).

Starting salaries for graduates with Masters degrees ranged from below \$12,000 (one case in Civil Engineering) to \$15,900 which was a "high" recorded for some graduates across all faculties.

Starting salaries for Doctors of Philosophy ranged from below \$13,000 (cases in Arts, Economics, Engineering and Science) to \$18,000 (all faculties but Law).

The survey participants were asked to estimate the percentage increase in starting salaries between April 30 this year and January 1 next year. The average estimated increase was 9.1 per cent.

. . . And law employment

There is a low incidence of unemployment among law graduates despite a fairly widely held belief that the outlook is poor.

This information is contained in a report on a survey conducted among 100 graduates from Monash's Law faculty in 1979 by the Careers and Appointments Service. In the report, titled *The Articles Experience 1979*, the Careers and Appointments Service sounds a warning to the legal profession that there is a real possibility that its attractiveness to law graduates is on the wane, particularly in light of increased competition for the best graduates from employers outside the profession such as the Public Services, chartered accountants and large firms.

The survey identified only one graduate who was seeking full-time employment as at April 30 this year. The one graduate who indicated that he was employed part-time

while seeking full-time work had articles arranged for 1981.

The survey found that 83 per cent of respondents went into "pre-professional training", with 58 per cent securing articles of clerkship and 25 per cent entering legal workshop courses (chiefly conducted by the Leo Cussen Institute). This distribution is practically identical to that of 1978 graduates.

Meanwhile, demand for chemical engineering graduates will "hold good" for at least 10 years, Professor Owen Potter, chairman of the Chemical Engineering department, says in the department's 1979 annual report.

"If some pundits are to be believed, the shortfall could be in multiples of the number graduating in 1980," he says.

Given this possible situation, he says, it is important for industry and government to strengthen the more effective departments of chemical engineering.

A bright but right way to tell the time

A number of years ago, senior lecturer in Mathematics at Monash, Dr Carl Moppert, noted an encyclopaedia entry which dismissed the use of sun dials as a time instrument because of their notorious inaccuracy.

But Dr Moppert has now designed for Monash a sun dial which is completely accurate for all days of the year and will remain so for several hundred years to come. As far as he knows, it is the only sun dial of its kind.

Instead of straight lines for the hours shown (7 a.m. to 3 p.m.) there is a series of hour loops or more precisely figure eights.

The gnomon

The shadow stick, or gnomon, protrudes from the wall and it is the shadow of its tip, made more conspicuous by a ring-shaped attachment, which marks the time as it crosses the hour loops.

The loops are dissected by a series of lines which indicate the month.

The key to the accuracy of Dr Moppert's sun dial is the carefully plotted loops which compensate for "the time equation".

The time equation, Dr Moppert explains,



● Dr Carl Moppert and sun dial. Photo: The Sun

is the difference between local standard time and local sun time (which dictates that it is noon when the sun is at its highest in the sky). Sun dials traditionally have taken into account sun time only.

Disease in koalas concerns zoologists

Monash zoologists are concerned about the high incidence of ovarian and uterine disease among Phillip Island koalas.



● Roger Martin tags a koala on Phillip Island

The disease, the cause of which is unknown, leads to sterility in the female and has sharply reduced the koalas' reproduction rate.

At this stage, it is not regarded as a threat to the island's koala population as their numbers and reproductive rate are still above replacement level. But zoologists believe it has important implications for the future management of koalas in Victoria.

Population dynamics

Roger Martin, a senior technical officer in the Zoology department who is studying the population dynamics of Victorian koalas as part of a part-time M.Sc. and Steven Brown, a veterinarian from the University of Queensland, who is doing a Ph.D. project on cystic ovary disease in koalas, have worked on Phillip Island where they captured and X-rayed female koalas using a special X-ray technique developed by Mr Brown.

The low reproductive rate of the Phillip Island population was originally thought to be due to the high population density of the koalas and probable competition for scarce food resources.

This hypothesis was rejected after data were collected on the koala colony on French Island. The colony there was thriving despite very high animal numbers and substantial tree damage as a result of their feeding activities.

The clue to the probable cause of the low reproductive rates among koalas at Phillip Island came from a visit by Mr Martin to a scientific meeting in Brisbane and subsequent discussions with Mr Brown. He was told that ovarian cysts had been found in up to 25 per cent of female koalas in the Queensland populations under study. Mr Martin reasoned that this could be the cause of the infertility on Phillip Island.

Vol. 1,000,000

The Monash University Library early this year took into stock its one millionth volume.

The book was *Mammotrectus Super Bibliam* by Johannes Marchesinus, printed in Venice in 1476 by Franciscus Rennar. A gift from the Friends of the Library, it is the Library's oldest volume and its first incunabula (a book produced before 1500 in the first 25 years of printing).

The University Librarian, Mr Brian Southwell, said that reaching the millionth in less than 20 years marked the Monash Library's growth rate as the fastest in Australia.