Evidence of early life in Victoria:

RARE FIND IN RIVER GORGE

The world's oldest known footprints have been found in a remote gorge in Eastern Victoria.

They were made 350 million years ago by the earliest recorded land vertebrates (backboned animals) and lay embedded in sandstone rock beside the Genoa River until floods uncovered them early in 1971.

Last month they were plucked by helicopter from their resting place and delivered to the National Museum in Melbourne.

A biologist, Mr. Norman Wakefield, of Monash Teachers' College, found the footprints in September, 1971. He notified Professor Jim Warren, of Monash University's department of zoology, and they identified them as having been made by amphibians of the Upper Devonian Age.

Professor Warren says the animals were probably very similar to the genus Ichthyostegus, which was an animal intermediate between fish and amphibians and has been found previously only in Greenland. (This lends support to the theory that at that time the continents were joined in one large land mass).

Three sets of tracks were found at the Genoa River site, and it's believed they were made by animals ranging in length from about 55cm (21 inches) to 90cm (nearly 3 feet).

As shown in the artist's reconstruction above, they were stout of build, had broad blunt heads, thick tails about the same length as their trunks, and four feet, each with at least three but possibly four or five toes.

Mr. Wakefield found the trackways during a botanical excursion in September, 1971 (see story, page 2).

In October, a team from the Monash zoology department accompanied him to the site to confirm the findings and begin preliminary examinations of the trackways.

Further on-site investigations followed, and early this year it was decided to remove the trackways to Melbourne for more intensive study.

There were problems, however. The prints were impressed in large slabs of rock, one weighing about 1300 lbs., and the others about 900 lbs. each.

The site, too, was inaccessible. It was reached only after a seven- or eight-hour foot walk from the nearest road, and this virtually precluded the removal of the specimens by land.

The most likely solution was an airlift — and here, Esso-BHP, who were using helicopters for their offshore drilling operations in Bass Strait, came to the rescue.

By arrangement with the helicopter firm, Airfast Services, a small helicopter took off on July 3 for a reconnaissance of the area. On board were the pilot, John Ross, Mr. Frank Bradley, area director of Esso-BHP, Professor Warren and Norman Wakefield.

This trip established that an airlift was indeed a feasible method of removing the rocks.

So, on Friday, July 7, a larger party returned by road to the district. It consisted of Professor Warren, Jim Guthrie, Ken Simpson, Larry Marshall and Peter Crabbie (all of Monash zoology department), Norman Wakefield and Michael Farrelly, of Monash Teachers' College, Ron Watkins, of Esso-BHP, and Alan Arnold, photographer.

Few people today would speak of a modern university as an "ivory tower"; (ivory tower, according to the dictionary, being "a place of lofty seclusion").

There's certainly nothing secluded about Monash where, in principle, any citizen may come to see us at any time, though in practice we prefer to invite him when we are geared to receive him, and show him as many of our wonders as we can.

The prime occasion for that, of course, is Open Day — Saturday, August 12, this year.

On that day, our visitors will be treated to a rich collection of marvels — from the "footprints in the primeval mud", reported on this page, to the "fingerprints" of life-forming substances in limitless space.

The mystery of the "fingerprints in space" will be explained in the Chemistry labs., while the footprints will be seen with the naked eye in the Zoology labs.

But that is not all; most of the departments will be open, with experts to satisfy any inquiring mind — even schoolboys and girls, who have the uncanny knack of asking the simple questions.

And not only in the labs and lecture theatres will there be entertainment and enlightenment; there'll be literary and cultural riches in the Alex theatre, Robert Blackwood Hall, the Religious Centre, the libraries and the Union, with a fascinating array of student activities.

A word of caution against disappointment: the visitor can't help to see the lot — he will suffer from a surfeit of excitement.

And you don't get that in an ivory tower! For a full round-up of the day's attractions, turn now to page 5.
Background to the Genoa River find

By NORMAN WAKEFIELD
Monash Teachers' College

Last September's excursion to the upper Genoa River was only a biological one, its purpose being to add further to the list of plant species known to grow on the sandstone formation there.

On a map, the sandstone area is roughly oval in shape, mostly in New South Wales, but extending into the Nungatta Mountain, rising to 3018 ft. In Victoria, the highest point is a range about 2600 ft high, just across the border. Further south again, the Genoa River zig-zags for some nine miles through a maze of cliffs and gorges.

From 1947 to about 1950, I had explored various parts of the sandstones, sometimes going in on foot and sometimes on horseback, either westery or the settler's house at South Nungatta or south-westerly from Rockton.

Evidently the area had not been looked into before by a botanist, for it yielded quite a number of plant species not previously recorded for Victoria, and some new to science.

On this occasion, three of us set out on foot from the settler's house—now deserted—and by the end of the day had crossed the 2600 ft range and descended to the Genoa River. My companions were Menas, Keith Rogers, a 75-year-old grazier of Wulpalmerg in Gippsland, and Russell Bathean, a science student of Monash Teachers' College.

First sighting

It was quite early next day—September 25, 1971—that we discovered the trackways. It was while negotiating a rocky part of the river bank that I saw the first footprints, some yards ahead, and Russell noticed the second trail while I was busy examining the first.

The two trackways were side by side on a slab of fine-grained sandstone about 7 square feet in area. The first was a series of almost 40 prints, some with toe marks, and the second was an undulating belly mark with rather shapely foot-marks in each side.

We spent two hours measuring, sketching and photographing the tracks, then set out again for South Nungatta. The unscheduled delay at the trackways resulted in darkness overtaking us before we were out of the sandstone. We had to climb down one cliff by torchlight, then set a compass course across country, and it was 10 o'clock before we arrived back at the old house.

I knew that these sandstones were shown on geological maps as Devonian, but checked this, when back in Melbourne, with Dr. John Douglas, a geologist with the Victorian Mines Department. He cautiously stated that the sediments were considered to be Upper Devonian.

It was appropriate that the matter should be discussed next with Professor Warren of the Monash Zoology Department, for he had been my supervisor during some postgraduate palaeontological work. His reaction to my initial mention of Upper Devonian footprints was one of considerable scepticism, for no tetrapod trackways were known anywhere from as far back as the Devonian. In fact, the world's oldest fossils of limbed vertebrates were of Upper Devonian age.

The photographs and sketches of the Genoa River trackways dispelled the doubts, and a second expedition was organised. The group comprised eleven people from Monash Teachers' College, the Monash University Zoology Department and the Victorian Mines Department.

This time, to avoid climbing over the range, the party went in by way of Tumblida Creek, which runs westward from South Nungatta to the Genoa River. On reaching the river, we had a three-mile trek downstream to reach the trackway site.

The geologists found two shall bed containing plant fossils, located about half a mile from the trackways and some 50 ft. higher stratigraphically. The plant remains were sufficient to confirm that the sandstones were of Upper Devonian age.

A third trackway was uncovered when I shifted a large block of rock which lay on the same bedding plane as the original tracks and a few yards beyond them. There was a definite series of imprints but none had preserved any recognisable foot shape.

A month later I took a third excursion to the trackways. There was Dr. Douglas and three others from the Mines Department and two from Monash Teachers' College.

This time we went west-wardly from the old house and skirted the eastern edge of the sandstone formation. We descended to the river by way of a creek valley in which there were tracks of warm-temperate mini-forest with huge lantana, tiny epiphytic orchids, and voracious locusts.

We traversed a large area of Devonian granodiorite where the local geological maps showed Ordovician sediments, camped the night near the river, then tussled upstream and marched the trackway site by the next evening.

Detailed tracings were made of each of the three trackways. The two original trackways were on the surface of a block of rock estimated to weigh 1300 pounds—over half a ton—and the other trackway involved two blocks each almost as heavy as the first.

The earliest known tetrapod fossils are from Upper Devonian sandstones in Greenland. The best-known, Ichthyostega, was about three feet long with bony head and short tail. The Genoa River trackways were evidently made by very similar animals.

As far as can be estimated, the Genoa River footprints date back between 350 and 360 million years. They are by far the oldest known evidence of land vertebrates in the southern hemisphere, being as old as the same age as the Greenland fossils.

*Continued from page 1

AUGUST 1972
ACADEMICS AND MPs DEBATE PLANNED U.S. NAVIGATION STATION

The proposed US navigation station, Omega, came under strong attack from three academics at a recent forum at Monash.

The general argument was that the station would not fulfil Australia's navigational needs, that it could easily disrupt some home communications such as transistors and telephones and that it could be a potential nuclear target.

The forum, which was organised by the student ecology group, ERIC (Environmental Research Information Centre), was held on July 26 and was attended by about 250 people, including both Government and ALP parliamentarians.

It also attracted the ABC and was visible on the morning show that night on "This Day Tonight."

After the three main speakers, the station had one defender—the Government whip Fox. He suggested that any use in war was not the point at issue because this was outweighed by its peacetime value. He also refuted suggestions of Government secrecy.

World-wide link

The forum began with an outline, by Dr. D.R. Hutton, senior lecturer in science at Monash, of how the system worked. Omega, he said, would be part of a worldwide communication system—it would link with stations in Hawaii, North-eastern United States, Norway and Trinidad and proposed stations in Japan, South America and East Africa.

Sites for the Omega installation are currently being considered. The most likely area in one of the following: Darling Downs in Queensland, the Riverina District of NSW, the north-central area of NSW, or the central part of the Murray Valley.

Dr. Hutton's main argument against the system was that it would have a "dead" range of 1200 miles across and thus would not be effective for navigation in the southern area of Australia where the navigation needs were most acute.

He believed cheaper navigation aids would be of more value.

Radio interference

The second speaker was Gordon Troup, reader in physics at Monash, who claimed that people living within an 18 mile radius of the Omega transmitter would suffer interference in their telephone, transistors and hi-fi sets. Television would not be affected because the set was well shielded.

The defence possibilities of the installation were criticised by Dr. Robert Cooksey, a lecturer in political science at the University of Western Australia. Dr. Fox.

He also suggested the Government had created a false impression that Australia would control the installation. It was true, he said, that Australian technicians would man Omega, but they could not interfere with the master signals from the main Hawaiian base.

The idea of total, all-out nuclear war was no longer relevant—today's strategy involved limited responses which could last for weeks, months or longer. Such a war, according to Dr. Cooksey, would not be fought over continental United States or European Russia but over places like Siberia and Australia where key installations could be located.

Other purposes

In reply Mr. Fox produced a statement which he said was made by Mr. Nixon in May 1971, and this indicated that the Omega station could be used for military purposes. Thus the Government had not been sincere. Further, its other purposes, especially for navigation, were far more important.

He suggested that a satellite could be used in wartime but this did not stop it being used to beam television pictures of overseas events or to provide weather data.

Mr. Fox said Dr. Cooksey's remarks would be valid if Omega was to be used as part of a defence system, but it was neither defensive nor offensive.

"Students lack ability in English expression"

Professor Swan

The Pro-Vice-Chancellor, Professor J. M. Swan, has outlined work being done in the University to improve the basic written expression of undergraduate students.

Professor Swan made his comments when he opened a conference in the Alexander Theatre on "Curriculum Development in the 1970s".

The conference was organised by the Joint Council of Subject Associations of Victoria, a federation of eight subject associations who are supported by more than 5000 teachers.

Prof. Swan's basic thesis was that it was all very well to have extensive curricular reforms in secondary schools but a few basic criteria had to be retained—including the ability to express oneself adequately.

Remedial courses

He told the 340 delegates that the Monash engineering faculty had appointed a specialist in linguistics and the English language to give remedial courses in basic English to a group of 15-20 engineering students.

Their facility in English writing and speaking was so poor as to threaten their program in higher years of the course, Prof. Swan said.

The problem was by no means confined to engineers, but affected all faculties, he said.

Prof. Swan said the Faculty of Medicine had recently been looking at the matriculation performance of its students in relation to their subsequent performance in the medical course.

"These students, because of the special aura attached to medical practice in Australia, are highly gifted and have very high matriculation scores, especially in subjects like mathematics, chemistry and physics.

"Over the past six years only six per cent of the intake has had compensatory passes in English Expression, Yet 30 per cent of those seen at meetings of the Monash Unassailable Progress Committee have come from this group."

Prof. Swan said the economics and politics faculty was hoping shortly to mount a research project on the teaching of basic skills of communication in the English language.

"Plan to stimulate student writing"

The Monash English Department is to give students personal contact with established writers in an effort to stimulate more creative writing.

Bruce Dawe will become the university's first poet-in-residence for one week from September 4.

The head of the department, Professor David Bradley, said he hoped to have a succession of leading writers visiting the campus for extended periods.

Professor Bradley said it was intended that the writers should not only lecture but conduct workshops and devote much of their time talking informally with students.

"Universities are among the few possible remaining patrons of literature and the arts and, if one is to make the best use of the small amount of support one can offer painters and writers, the desirable things is to invite them to work on campus," he said.

Professor Bradley said recent poetry readings had received some fine poems, some of which he considered was publishable.
MONASH IN THE BEGINNING

“IT GAVE ON TO A PLEASANT VIEW . . .”

In 1958 the Interim Council of Monash University sought a site of not less than 150 acres, preferably 250 acres.

Three sites fell into the short list: a) Metropolitan and Huntingdale Golf Courses, b) the Talbot colony for epileptics at Clayton, c) on area south of Centre Road fronting Clarinda Road. For a time, Caulfield Race Course came in and out of the list.

A study of the maps and travelling times and the density of suburban students at Melbourne University had already shown (at 1958) that the site of Victoria’s (in effect Melbourne’s) second University should be in the South-eastern suburbs.

For one reason or another (after all, you can’t take ownership of land even if it is used for a private golf club), the Talbot site was chosen. Besides enjoying a number of technical advantages (a level plateau, good foundations, relatively easy to drain towards the sea), nearly 290 acres were available; and, as everyone said at the time, and still says, ‘it gave on to a pleasant view of the Dandenong Ranges.’

The story goes that when the appointed planners (Bates, Smart and McCutcheon) first met the Interim Council or its buildings committee, there were simple questions asked and answered: 1) How many students? 10,000. 2) How many staff? 1,000. 3) What with limited public transport, must would come by car, yes? Yes.

Very well, we will provide first for about 2,000 cars. Now, what do you want in the way of lecture rooms and laboratories?

Master plan

So a master plan was drawn up, under which the first laboratories and class rooms for science, mathematics and engineering were designed and started.

The Buildings Committee in the early days was in fact the executive committee of the Interim Council. So, when the committee said we must have buildings for science or engineering, they were virtually deciding to have faculties of science and engineering.

Nevertheless, the ultimate objective was a multi-faculty university, including clinical medicine and a hospital on the campus.

Right from the start, it was laid down that between and among the buildings the campus was to be for contemplative pedestrians, not for vehicles. So we have ring roads, but, you will notice, no through roads.

Tunnel network

As a substitute for internal roads, we have a network of tunnels under our feet to convey the piped and wired services between some buildings, goods and services.

The Buildings Committee, which celebrated its first meeting only a week or so ago, is described as having hired more architects in the space of 10 years than any other committee of like size, or spending as much money—of the order of $60 millions.

Though, from the beginning, Bates, Smart and McCutcheon were to be the planners and though they were commissioned to design the first set of buildings from 1959 to 61 (for science, mathematics, engineering and medicine), it was decided to assign selected architects to different buildings.

The fear that this might lead to the wildest excesses of architectural expressionism was of course tempered by the limits of materials and style and finance laid down by the Buildings Committee.

Years ahead

The curious thing was that the work went so well in the early stages (including selecting and buying the site, and putting up the first buildings), that the University opened for classes in March 1961, several years ahead of expectations, and that all faculties were housed and at work by 1966, instead of the expected 1970 or later.

In fact, by 1970, the main complex, including the Religious Centre, the Alexandra Theatre, and Robert Blackwood Hall, was complete in its first essentials.

But other stages and developments towards full size and capacity are to come; the next two or three years could be among the busiest in our building program: extensions to engineering, physics, and chemistry are already under way, while new projects are about to start on extensions to the Mercers Building, to several of the science buildings, to education, and in the sports areas.

It is true that the clinical work in Medicine has been spread among several metropolitan hospitals—particularly Alfred and Prince Henry’s.

Teaching hospital

Only in the last few weeks has a decision been made as far back as 1958 has been given token political approval that could lead to a teaching hospital of a few hundred beds, on the campus, during the next few years.

As it turned out, we put ourselves into the hands of relatively few architects. By any standards, the visitor we hope will agree that the result is function, convenience and harmony with sufficient variety to be interesting.

LEARN TO TYPE

The second semester union typing course commences on Monday, August 28. It is open to all Monash students and staff.

Classes for the two-week course are held on Monday evenings and Wednesday afternoons. The fee is $1.5.

People can enrol at the clubs & societies office, first floor, Union, 9.00 a.m. to 2.30 p.m. daily.

Olympic rower

William Ballieu, 21, a full-time student in 3rd year economics, has been selected in the Australian rowing eight for the Munich Olympic Games.

The other current Monash student in the Australian Olympic team is Ian Watson, a diploma of education student who is in the basketball team.
WELCOME TO MONASH UNIVERSITY'S FIFTH OPEN DAY ... In these pages, Monash Reporter attempts to show just a few of the things you’ll see as you move around the University. The full guide appears on pages 6-7. On page 8 is a breakdown by time of events as they will occur during the day.

A BIG WIND-BUT NO NOISE

What would a world free of echo be like?

Open Day visitors will be able to find out by visiting the Mechanical Engineering Department’s new anechoic chamber.

Anechoic simply means without echo. However, the equipment, materials and expertise needed to construct such a state are not so simple.

The chamber is in building 5 (31 on map). Its walls are made of concrete a foot thick and it sits on 84 large springs, completely isolating it from any vibration passing through the building.

The walls, floor and ceiling of the chamber are lined with huge wedges of rockwool insulating material which absorb sound, eliminating reflection or echo.

Noise pollution

Staff and students use the chamber to measure the acoustic behaviour of noise sources in an attempt to understand among other things, the causes of noise pollution.

Another piece of equipment which became operational only recently is the huge (4.5m x 3m x 30m) wind tunnel used for study in the field of fluid mechanics.

The tunnel can produce air speeds of up to 250 m.p.h. and a major part of its work involves the investigation of the effect of wind on tall city buildings.

A new computer — with two novel uses — will be the centre of Information Science.

Lecturer, Mr. David Boulton, who is managing the display, said the department’s new Hewlett Packard 2100A computer would be operated alternately as a “speak-your-weight-machine” and a “music player.”

Visitors who bring their own music will be able to punch out the score in a notation approximating the way music is written. The computer will be programmed to locate the right frequency and output to a speaker.

Mr. Boulton said Monash students were working on projects using music and speech as part of their normal courses.

The computer will also be converted to a “speak-your-weight-machine.”

HISTORY PLAY

The History Department will unfold the story of Melbourne’s early historical development in verse, song and prose for Open Day visitors.

The department’s dramatic production, “From Batman to Chloe,” will feature professional actors Julia Blake and Norman Kaye and Australian History lecturer, John Rickard.

Using contemporary diaries, letters, court cases, songs, poems and local melodrama, the production traces the history of 19th century Melbourne from the arrival of John Batman to the death of Queen Victoria.

Julia Blake has been appearing in the stage show “Bridy” with Peter Wyngarde and she has been seen in the ABC’s serial “Belinda.”

Norman Kaye, an actor and musician, recently played in “Cassar and Cleopatra” at St. Martin’s Theatre.

“From Batman to Chloe” will be on at the Union Theatre from 3 to 4.15 pm.

AUGUST 1972
GENERAL INFORMATION

FIRST AID is available at the Health Service, first floor, Building 2 (call extension 420, or go to the red box, No. 12 on the map), 11 a.m.-2 p.m. (phone 3175) then in the Sports Medicine Centre (1) between 2 and 5 p.m. (phone 3195).

Enquiries and information for the Information Centre, ground floor, Eastern end of the Union will be available from faculty staff in the Conference room, Eastern end of the Union building (9). A temporary Dance Theatre; 2.45-3 p.m., Address between refreshments: Coffee Lounge 10 a.m. to 5.30 p.m., Grill Room 11 a.m. to 5.30 p.m., and Bar 11 a.m. to 3.30 p.m. Hot meals: Grill Room 12 noon to 2 p.m. (9).

CAREERS AND GENERAL INFORMATION. A variety of research equipment and techniques will be demonstrated, including West Gate Bridge test panels, a small computer, a 500 ton compression testing machine, soil mechanics test equipment, X-ray apparatus and a geological display featuring rocks of the Melbourne district.

CLUBS AND SOCIETIES

Wasy of the 81 student hobby and cultural societies will be displayed in the Union (9). The following are on all day in the Union. Fine arts courses: Demonstration of pottery by Bill and Mary Hick... Union pottery tutors, and students; demonstration of weaving by students in weaving and textiles; demonstrations of jewellery making, sculpture, life drawing and painting, Sensitive (sensitive) to fine arts room.

ACADEMIC VISITS

A continuous tour of Higher Education Research Unit (30). Demonstrations of audiometric and auditory discrimination equipment. Room 112, second floor.

DANCES

Films will be shown at 11 a.m., 1 p.m. and 3 p.m. in lecture theatres M2, A and M1.

ANTHROPOLOGY AND SOCIOLGICAL LIBRARIES

The Monash University Library is a library of libraries with major branches in various parts of the campus convenient to the people who use them. The Main Library (4) serves the Faculties of Arts, Economics, Politics and Education. The Bio-Medical Library is with the Faculty of Medicine (12) and the Engineering with Faculty of Science (11). Publications by Monash authors will be on display in the Library, 1st floor, 1st floor of the Main Library. There will also be an exhibition of books on the American economy and a continuous screening of the film "The Wonderful World of Gumbel" (30).

LINGUISTICS

The exhibits, which will be open all day in Engineering Building 5 (31), first floor. The department is concerned with the relationship between the structure and behaviour of materials of engineering interest and covers the fields of metals, ceramics, glasses and rubbers. Undergraduate and postgraduate laboratories will be on view illustrating various aspects of the study of materials. Working exhibits will include Transmission Electron Microscopy of alloys, Optical Microscopy of metals; X-ray Diffraction equipment; mechanical testing of materials; Leishion Mellung by high frequency induction and high temperature (10,000 deg. C), high frequency plasma apparatus.

MECHANICAL ENGINEERING

Staff will be available all day in the mathematics building (32) to the left of the main foyer, on the first floor. Working exhibits will include a batch of machinery processing at extremely high speed cutting rates.

Acoustics: anechoic (without echo) chamber used to study the transmission of sound, or mechanical sources.

Heat Transfer: the performance of a heat exchanger (a rotary regenerator) used to study the effects of various parameters on performance.

Engineering Dynamics: includes machines for producing vibrations, for balancing rotors, for testing the whirling of shafts, etc.

Fluid laboratory: wide range of precision measuring equipment which measures micropoison deviations from perfection.

LA Power system: the complex behaviour of both hydraulic and pneumatic control and power systems are displayed in a series of experimental rigs.

THE low student will hold a Mint Court (or mock trial) between 2 p.m. and 4 p.m. Place: The Sun.

THEMATIC INFORMATION

Humanities Building (10) a book display of rare homes and monographs of interest to humanities students will be available from 11 a.m. to 4 p.m. in the lecture theatre H1. The program will last 1 hour. Two one hour language laboratory demonstrations will be held in I 12 noon-2 p.m. and from 3-5 pm.

HISTORY

A play, "From Batman to Clause", will be held in the Union Theatre. Tickets, 50/-, are on sale at the box office.

ELECTRICAL ENGINEERING

Films will be shown in lecture Theatre H2 at 10 a.m. and again 1 p.m., in lecture theatre H1. The program will last 1 hour. Two one hour language laboratory demonstrations will be held in

LIBRARIES

The Main Library is open from 9 a.m. to 9 p.m. seven days a week, until 11 p.m. on Friday. The Law Library is open to the public from 9 a.m. to 10 p.m. Monday to Thursday and 9 a.m. to 6 p.m. on Friday.

THESE holidays will be held a Mint Court (or mock trial) between 2 p.m. and 4 p.m. Place: The Sun.

GERMAN

Humanities Building (10). A book display of rare homes and monographs of interest to humanities students will be available from 11 a.m. to 4 p.m. in the lecture theatre H1. The program will last 1 hour. Two one hour language laboratory demonstrations will be held in I 12 noon-2 p.m. and from 3-5 pm.

FRENCH

Humanities Building (10). Demonstration of the use of the library languages. A selection of French films will be shown in lecture Theatre H2 at 10 a.m. and again 1 p.m., in lecture theatre H1. The program will last 1 hour. Two one hour language laboratory demonstrations will be held in I 12 noon-2 p.m. and from 3-5 pm.

CHEMICAL ENGINEERING

The chemical engineer plays an important part in the fight against pollution and displays of this work will be featured. The exhibits, which will be open all day in Engineering building 5 (31), will also highlight work in the fields of mineral, food and petroleum engineering. Films will be shown in room G17 of building 5 from 11 a.m. to 12.30 a.m. and again 1 p.m. Displays will include fluidized beds; biological treatment of dairy waste; continuous production of malt extract; distillation; testing for food contamination; water cooling and clarification; model engines; crushing and recovery of minerals; automatic process control; analogue computing; graduate laboratory equipment and unusual fluid behaviour, such as bouncing balls and lightning without fire.
OPEN DAY Hour by area

A significant proportion of the University's work is not done within the University itself but in a network of teaching hospitals scattered around the metropolitan area.

However, a number of off-campus medical departments have made a valuable contribution in the form of displays illustrating the work carried out in their respective fields.

A special service to provide advice for prospective university students will be provided by the Careers and Appointments Office on Open Day.

Advice for students

A special service to provide advice for prospective university students will be provided by the Careers and Appointments Office on Open Day.

The Higher Education Research Unit has been established basically to facilitate the learning experience being provided for students.

To this end television equipment has been purchased so that lectures may be taped—the lecturer can judge his performance and see the reaction of his students.

On Open Day audio-visual equipment used by HERU will be on display in the Education Faculty.

Two TV cameras will be in operation and visitors to the faculty will appear on television monitors.

The micro teaching technique will also be described (for an outline of this work involving students from suburban high schools see page 11).

The following is an outline in more detail of the varied operations of HERU which has an academic staff of four supported by two research assistants.

(1) Technical Research and Development:

Teaching techniques are researched and developed and are tested out in normal situations.

This, in turn, may lead to the development of seminars, test books and training programs in the use of a particular technological purpose.

A current example is a research project to consider the curriculum and instructional methods for a course in reading efficiency for university students.

(b) Educational Surveys: This is a service provided to any official group that wishes to obtain information as to aid in its educational decision making.

Requests for surveys may come from the University as a whole, from departments, from community workers or with particular courses of study, or from student groups. Examples of such projects include studies of the work load imposed on students by subjects or courses, descriptions of the incoming and outgoing population and surveys of educational procedures currently being used by the faculty.

Also included are studies of selected subjects to gather data, such as a current survey on the use of television in university teaching. This survey is being conducted in collaboration with the Tertiary Education Research Centre, University of NSW, and is supported by a grant from the Australian Vice-Chancellor's Committee.

(c) Educational Practices Advisory Service: This includes in-service training activities such as forums, seminars, workshops and induction courses to assist new staff with their teaching and also to provide experienced staff with the opportunity to increase their knowledge of educational practices.

Another activity is the dissemination of information on educational matters to members of the University. This is currently carried out by the publication of "Notices." The Unit is also responsible for the Educational Practices subjects of the Diploma in Education (Tertiary) a course which has been developed by the Education Faculty specifically for experienced tertiary teachers.

Advice for students

A special service to provide advice for prospective university students will be provided by the Careers and Appointments Office on Open Day.

It will be held in the Careers and Appointments Office, first floor, Union Building (9 on map). Academic staff from six faculties will be available to discuss conditions of admission, course structures, and faculty regulations and requirements.

Staff from the Careers and Appointments Office will be on hand to answer queries on careers and to supply current information on career opportunities.

Advice on student housing, study problems and the problems of students in transition from school to university will also be available.

BAHA’S LECTURE NEXT MONTH

Dr. Iain Macleod, a former associate professor at Dalhousie University, Shona, Earl, will give a public lecture for the Monash Baha’i Society on Monday, September 4.

The lecture, titled "Introducing Persia: the origin of world unity ideas and forces," will be held at 11:50 p.m. in the Auditorium.

The society, which is one of the smallest groups registered with the University's Club and Societies Office, will also be active on Open Day. It will have an information table in the Union and show a film in the Auditorium.

HELPING IN THE LEARNING PROCESS

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On Open Day audio-visual equipment used by HERU will be on display in the Education Faculty.

Two TV cameras will be in operation and visitors to the faculty will appear on television monitors.

The micro teaching technique will also be described (for an outline of this work involving students from suburban high schools see page 11).

The following is an outline in more detail of the varied operations of HERU which has an academic staff of four supported by two research assistants.

(1) Technical Research and Development:

Teaching techniques are researched and developed and are tested out in normal situations. This, in turn, may lead to the development of seminars, test books and training programs in the use of a particular technological purpose. A current example is a research project to consider the curriculum and instructional methods for a course in reading efficiency for university students.

(b) Educational Surveys: This is a service provided to any official group that wishes to obtain information as to aid in its educational decision making.

Requests for surveys may come from the University as a whole, from departments, from community workers or with particular courses of study, or from student groups. Examples of such projects include studies of the work load imposed on students by subjects or courses, descriptions of the incoming and outgoing population and surveys of educational procedures currently being used by the faculty.

Also included are studies of selected subjects to gather data, such as a current survey on the use of television in university teaching. This survey is being conducted in collaboration with the Tertiary Education Research Centre, University of NSW, and is supported by a grant from the Australian Vice-Chancellor’s Committee.

(c) Educational Practices Advisory Service: This includes in-service training activities such as forums, seminars, workshops and induction courses to assist new staff with their teaching and also to provide experienced staff with the opportunity to increase their knowledge of educational practices.

Another activity is the dissemination of information on educational matters to members of the University. This is currently carried out by the publication of "Notices." The Unit is also responsible for the Educational Practices subjects of the Diploma in Education (Tertiary) a course which has been developed by the Education Faculty specifically for experienced tertiary teachers.

Advice for students

A special service to provide advice for prospective university students will be provided by the Careers and Appointments Office on Open Day.

It will be held in the Careers and Appointments Office, first floor, Union Building (9 on map). Academic staff from six faculties will be available to discuss conditions of admission, course structures, and faculty regulations and requirements.

Staff from the Careers and Appointments Office will be on hand to answer queries on careers and to supply current information on career opportunities.

Advice on student housing, study problems and the problems of students in transition from school to university will also be available.

MONASH REPORTER
"MAGIC" FROM THE CHEMISTS

For Open Day the Chemistry Department is planning what it describes as "a spectacular bag of chemical magic feats complete with explosions, colored smoke and devil's potion."

The department is using the simple formula of fun and entertainment to produce learning.

The two "magicians" for the 60-minute show will be Dr. Peter Lewerent and Dr. Enn Ebling who are pictured above at rehearsal. It will be held at 2.30 p.m. in lecture theatre 56.

After the smoke and smells have cleared from the lecture theatre—whch can be approximated at 3.50 p.m.—Professor Ron Brown will give a talk on life in space.

Prof. Brown was part of a research team which recently discovered the existence of the formaldehyde molecule in space—a molecule which may hold a key to the beginnings of life. It was discovered through the CSIRO radio telescope at Parkes, NSW.

A working and static display of Prof. Brown's study, microwave spectroscopy, will be featured in the first year teaching laboratory. Other displays will also be mounted in the laboratory.

Groups of first, second and third year students will demonstrate experiments conducted in normal practical chemistry sessions. Research students will demonstrate a wide range of equipment and techniques in spectrometry, chromatography, and X-ray diffraction. Audio-visual aids used in first year classes will be on display.

LESSONS ON THE METRIC SYSTEM

How much do you know about the new metric system? On Open Day the Physics Department will give a few simple examples of what it is all about.

Mary will be able to weigh themselves in metric measure and then consult a chart to establish their ideal height/weight ratio.

Computing scales will be used to show how everyday grocery items are priced in terms of cts per kilogram.

A calculator will convert speed readings in miles per hour selected by visitors to kilograms per hour.

WHAT ARE THE STUDENTS UP TO?

More than 150 student clubs, societies and sporting bodies, covering a fascinating range of interests, are active on the Monash campus.

These are based largely in the Union and the Sports and Recreation complex, and many of them will be playing a significant role in Open Day activities.

One of the more spectacular events (weather permitting) will be a display of parachute jumping by members of the Monash Skydiving Club. There will also be a full round of normal sporting fixtures on the various sporting fields around the university.

Other bodies taking part will include: Astronomical Society; Bahai's Society; Drafl Resistance; Society of the Faculty of Economics and Politics; Electrical Engineers; Evangelical Union; Malaysian Students; Engineering Students’ Society; Monash Players; Modern Dance; Indian Dance; railway; Tae-Kwon-Do (Karate).

Another group of students will be operating a campus radio station, transmitting to a number of points throughout the university.
THEATRE

Two productions by German company

The German touring drama company, Die Brücke, which has been brought to Australia by The Australian Elizabethan Theatre Trust, will play five weeks at the Alexander Theatre in August. The plays, which both have a bizarre subject matter, are "Woyzeck" and "Der Frieden." "Woyzeck," the story of a poor and harmless soldier who has a child by his sweetheart Marie. He turns himself over to a doctor for experiments. Later, Marie is seduced by the Drum Major and Woyzeck hears voices charging him to commit murder. But it is Marie he stabs, not the seducer—"a good, genuine, beautiful murder," comments the doctor.

On August 25, at 8 p.m., "Der Frieden," an adaptation by Peter Hacks of a comedy by Georg Buchner, the story of a poor and harmless soldier who has a child by his sweetheart Marie. He turns himself over to a doctor for experiments. Later, Marie is seduced by the Drum Major and Woyzeck hears voices charging him to commit murder. But it is Marie he stabs, not the seducer—"a good, genuine, beautiful murder," comments the doctor.

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The idea of Die Brücke was born on August 23 from 6 p.m. to 10 p.m., August 24 from 10 a.m. to 5 p.m., August 25 from 10 a.m. to 5 p.m., and August 26 from 10 a.m. to 3 p.m. The first Australian Antiquarian Book Fair will be held in conjunction with The Australian Antiquarian Book Fair. The book fair will be open from August 23 from 6 p.m. to 10 p.m., August 24 from 10 a.m. to 5 p.m., August 25 from 10 a.m. to 5 p.m., and August 26 from 10 a.m. to 3 p.m. A book sale will be held in the mezzanine at 8 p.m. on August 25.

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SCHOOLS HELP IN TV TEACHING AND RESEARCH

TELEVISION is being used by the Education Faculty in two different ways to train future teachers.

First, Monash diploma of education students give lessons to students at Monash High School in the school’s television studio.

These lessons are video-taped and played back to the students so they can go over their teaching style and determine any faults.

On the lighter side... HOW VALUABLE IS RUBBISH?

Contacts between Monash and its staff and the high schools in the area cover a wide variety of activities.

Take for instance garbage.

That happens to be the link at the moment between Dr. Ian Rae of chemistry and Mr. Doug Hill, science master at Glen Waverley High School.

Between chews and quaffs at a barbeque the other day, Hill told Rae about one of the pupils in fourth form at the school who, all in the cause of science, raked the muck of Waverley and the school who, all in the cause of science, raked the muck of Waverley.

And, believe it or not, a girl: Kathryn Thacker, aged 15.

Presumably at dead of night, she explored the contents of trash cans outside front gates; and she went to the degree to what came out of the dump truck.

She classified the stuff, on paper, into edible and food waste on the one hand, and recoverable materials on the other: paper, ferrous metals and glass, that could not be reused as found, would be reproduced as scrap (recycled, in the new jargon).

Meanwhile, she had written to Waverley municipality in Sydney asking how they cope with their garbage.

On the disposal of plastics, she wrote to the plastics firms in the pink pages, and learnt that plastics are not recoverable.

She called on many of the firms in Waverley, and asked them what were they doing about their industrial waste. They gave her a mixed reception.

Within the obvious limits of schoolgirl science, Kathryn did the cost-benefit arithmetic for sorting Waverley garbage, and recovering some of the cost of it from the sale of reuses.

She considered that Waverley would make a profit.

Kathryn’s sums may be right, or they may be wrong. But no matter. She and thank heaven others of her age and enthusiasm fear the rising tide of garbage.

So, in her own sensible and determined way, she did something about it—the first steps in scientific inquiry.

Second, schools in outlying suburbs such as Syndal and Westall come to Monash to act as experimental “mini classes.”

These classes are part of a project to investigate the whole effectiveness of the use of television to teach and to train teachers.

The twin ideas of a small class plus only part time or one on one are examples of what is known as the “micro-teaching” approach to training teachers.

How does it work? Basically, in the Monash operation, it involves a TV camera filming a student teacher taking a class of up to ten students for about ten minutes.

This lesson segment is video-taped so that the student can study himself or herself in action.

According to Professor P. J. Fenham, the man in charge of the Monash High School project, this is not as nerve-racking as it sounds.

“Certainly it’s not so unnerving as taking a strange class into which you are thrown without friends around,” he said.

“It is hard to convey criticism to a student in a sufficiently kind, accurate and gentle way. With this, you don’t have to say a word. Some see the start of the tape and say ‘Oh, please turn it off and let me have another go.’

“It leads to an enormous amount of self-criticism which in many ways is more valuable than external criticism.”

High school studio

By this method, a group of six or seven students can be taped in half an hour. The students go to Monash High School because it has a TV studio with a viewing window between the control room and classroom.

Sitting in the studio, students look—and learn—through the window as each takes the class in turn.

The pupils cannot see the watchers but of course know they’re there and happily give their verdict on the students when asked.

“Usually they start with something like ‘She’s a good teacher,’” said Prof. Fenham. “Then they get down to constructive criticism which is often instructive—‘He didn’t make the point clear’ or ‘She didn’t make me feel interested in that.’”

Prof. Fenham describes the concept of micro-teaching as a major breakthrough in teacher-training as it “districts” the teaching task.

“In the past teachers learnt on the job either by natural gift or unpleasant experience” he said. “This way they can practice before going off to a school where there may be no-one to help or criticize.

“The system has its critics. Some say it’s an artificial situation, too short to be of use and not the real thing, but it’s still much better than a text book.”

The other work on teaching by television involves the faculty’s Higher Education Research Unit.

The unit was given a grant of $15,000 by the Australian Advisory Committee on Research and Development in Education to cover research into micro-teaching from 1971 to 1973.

“It’s a technique that costs a lot of money and our unit has been asked to find whether the expense is justified,” Mr. J. C. Clift, director of the unit said.

So far the unit has put 92 diploma of education students through a program in which each student has given about five micro-lessons to pupils brought to Monash from schools throughout the suburbs.

The unit’s own TV cameras are used for the lessons.

Mr. Clift said one side effect of the program was that a number of pupils had said it had made them appreciate the teacher’s task far more than before.

Whatever the outcome of this research, says Mr. Clift, one result is certain—all students who underwent the experiment said it had given them far more confidence in handling a class of pupils.

LAW STUDENTS HELP PEOPLE WITH PROBLEMS

By COLIN O’HARE, Legal Referral Service secretary.

The Legal Referral Service has undergone rapid expansion since its inception in April, 1971.

In its formative days a handful of Monash law students dealt with an average of five enquiries per week.

The Service now engages some 85 students to handle the average 35 enquiries per week.

In addition to its premises at 107 Russell Street, the Service has opened an office at 5 Osborne Avenue, Springvale.

Under the leadership of Don Fleming, Monash law students and graduates are rostered to interview members of the public who seek guidance about their legal problems.

The Service makes no attempt to render legal services, its staff being unqualified to do so.

It recommends the most appropriate course of action to solve problems and refers clients to a variety of legal and social agencies in Melbourne. The Service may be described as a communication channel through which members of the community can gain access to legal advice.

A large number of people in the community have problems which involve legal considerations and yet, for a variety of reasons, proper legal counselling is inaccessible to them.

The Service is currently embarking upon a program designed to make the public more conscious of legal problems and aware of the facilities of the Service. For example, a booklet will shortly be published for distribution explaining the legal services provided by the various agencies in Melbourne.

Clayton area

Other brochures to a number of languages are being distributed in the Clayton area advising of the Service’s facilities.

Also the Service is investigating the need for, and feasibility of, engaging qualified solicitors to provide free legal services to members of the community who would otherwise be denied access to the legal system.

The voluntary work of law students enables them to gain invaluable insight into the types of problems prevalent in the community and the inadequacy of the legal system to dispense justice to the underprivileged.
Zoologist is a TV star

The ABC and its scientific advisers have scored again in the current series on "Wild Australia" (AVB 2, Sundays, 7.30 to 8 p.m.).

The scientific advisor, and the narrator, is Dr. Douglas Doward, Senior Lecturer in Monash Department of Zoology.

The first of three series (Sunday, July 18) was made at the seaside, a masterpiece of observation and photography.

Camera work by Ian Warburton, editing by Mike Feakes-Thomas, and direction by Ken Taylor (you may remember his "Bush Quest" with Bill H taken first class.

Some may have queried the move while the cameras kept a bird in flight; others may have wondered at Flinders Island in Bass Strait and at Glenice Island off Wilson's Promontory; and the bridge dancing on the town common at Towtyville.

But you should not min the other: (4) the west-coasted eagle, in the Werribee Gorge and on the Nullabor Plain, (5) Macquarie Island south down South, featuring the Light-mantled sooty albatross, and (6) Ardrem Land, showing crocodiles and turtles and the first filming of the bald pigeon.

As the world rushes headlong to its final doom of overworking with home sapiens and his garbage, let us hope that these films and others like them can be retrieved from the archives to show the last survivors what the world once was like.

G. Vaey.

Engineering students get televised lectures

By SANDRA INGWERSEN

A series of 18 routine course lectures have been recorded on video tape and are currently being transmitted through the University's closed-circuit television system for first year engineering students.

Presentation and preparation of the lectures involved co-operation between Education Research Unit, the Audio Visual Aids Section, and the Higher Education Research Unit.

The videotaped lectures are being given in a "hands-on" method by three civil engineering lecturers—Dr. Ken Atkin, Dr. Peter Darwin and Dr. Tom McMahon. Personal contact between lecturer and student is being achieved by a discussion period following the taped lectures.

Repeated use of all or part of the tapes over several years will compensate for the longer time involved in lecture preparation. These tapes may also be used by students, including late arrival engineering students, for revision purposes.

The idea is to build up a stock of tapes which—by the very nature of closed-circuit capacity—can be taken out by students and studied.

July 22, on the pallet. A number of video recording equipment will be on display on Open Day.

This is just one example of the use of television in a more unorthodox way.

But television can prepackage a lecture room presentation and thus allow the lecturer to eliminate problems of integrating, film, pictures, graphics etc, prior to the lecture.

Television and video offer every student the opportunity of a close-up view of a demonstration or experiment conducted either in the lecture room or previously carried out in a laboratory.

Another unique capability of television is that it offers the opportunity of immediate and repeatable playback of some event or process for analysis.

In this it has the capacity for providing self-evaluation as the student learns techniques involving interaction with people or physical performance, and finally, television can take the students on 'locations' and condense a process in time so that the student is able to follow the complete process or a series of processes within one lecture period.

The Audio Visual Aids Section services all Departments of the University, it also undertakes educational assignments for outside bodies.

Some of the facilities available from the Section are 35mm slide programmes, 16mm motion picture film, audio tape recordings and dubbings, video tape recordings and playback, and live television presentations in monochrome or colour.

Diary of events

AUGUST

1st: German Department Film. "The Captains of Kopenick." 8 p.m. Mull. Film Group. "Pulver Marx and the Ammunition." members only, 1.40 p.m. Union Theatre. "The Demonstrators." members only, 7.30 p.m. Union Theatre.

8th: Monash Women's Society. "Vice-Chancellor's House." 8 p.m. Speaker: Prof. Bob Brown, Canberra. "Life in Space." All staff wives and women members of staff welcome, 8 p.m. Public lecture on pesticides and population by Dr. R. W. M. Mallett, director of the UK Nature Conservancy's Monk's Wood Experimental Station, at 2 p.m. Primary Philip Theatre, School of Agriculture.


SEPTEMBER

1st: Teach-in on urban renewal. Alexander Theatre.

3rd: Lunchtime concert. RMB. 1.00 p.m. Speaker: Sirs. Osborne, Shailer, Hill, and Woodbridge. "We of the South" by John Beethoven, Hindemith and Baburowich.


7 More details of future Monash events will be published in next issue. It is hoped that further details may join the Monash Film Group at the Union Theatre prior to the above screening times. Membership is $5 a year which may be paid by deposit and at centre screenings until 8 is read. Only August screening are listed above.

Copy deadlin for the next issue of Monash Reporter is Friday, August 12. Letters and questions from staff members and students are welcome and should be addressed to the editor, Ian Anderson, in the Information Office, East Rose, University Colleges (phone 3067).

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