

MONTAGE

NEWS AND VIEWS FROM MONASH UNIVERSITY

The man of straw

A Monash study is set to unmask one of Australia's most celebrated but elusive literary figures.

Since Henry Handel Richardson's first novel in 1908 until her death in 1946, the best-selling writer, whose real name was Mrs Ethel Robertson, worked hard to keep her private world separate from her public identity.

So enduring was the deception that even today some readers believe that her novels, including *The Getting of Wisdom* and *Australian Trilogy: The Fortunes of Richard Mahony*, were written by a man.

Born Ethel Florence Lindesay Richardson in Melbourne in 1870, the author protected her pen-name vigorously, according to Associate Professor Bruce Steele, one of the English department researchers working on the project.

"Even on her death-bed, the last thing she did was insist that her real name be removed from an MGM movie contract for the film rights to *The Fortunes of Richard Mahony* – a movie that was never made," he said.

Funded by the Australian Research Council, Monash's Faculty of Arts and a substantial grant from Dame Elisabeth Murdoch, the study is bringing to light new information about the author's character and personality.

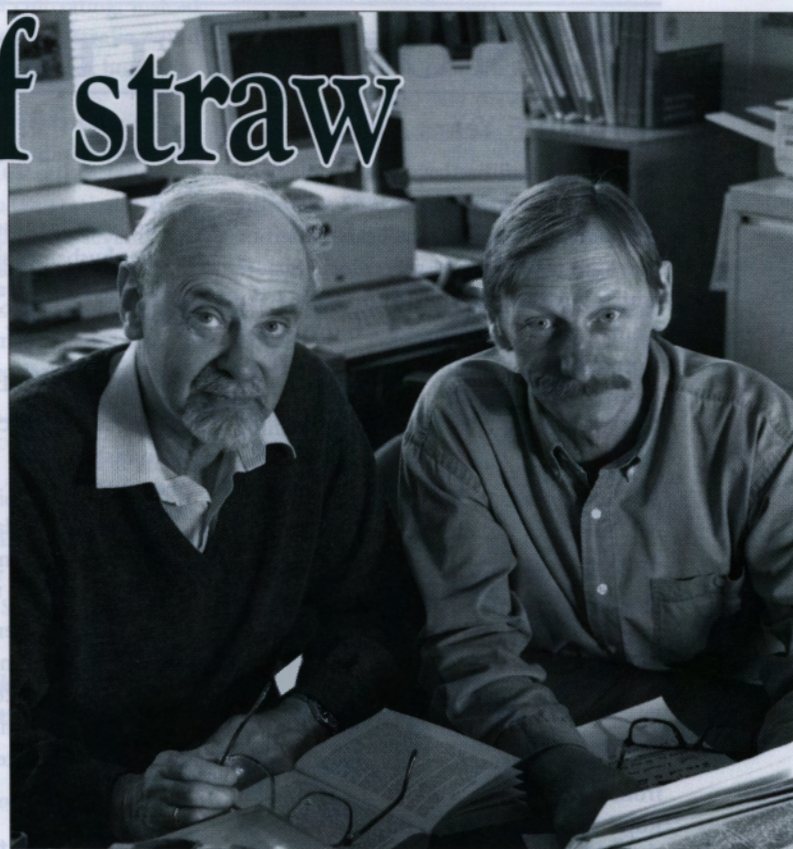
The results, according to Mr Steele and co-researcher Professor Clive Probyn,

will "encourage new ways of reading the writer" and redefine critical thinking about her.

The researchers have traced and studied a range of unpublished and rare material, including the author's personal diaries and correspondence, early literary manuscripts, typescripts and songs. They plan to produce comprehensive critical editions of the author's letters and works from the material they have uncovered.

Some of the most valuable insights into the author's character are expected to come from letters, spanning some three decades, to her old school-friend Mrs Mary Kernot. Mrs Kernot featured as a character in *The Getting of Wisdom*, a partly autobiographical novel which displeased the writer's old school, Presbyterian Ladies College in Melbourne.

The researchers have been given exclusive permission to study the letters which have been locked up since the author's



Bruce Steele and Clive Probyn: Henry Handel Richardson demanded a public identity separate from her personal life.

death and will not be made publicly available until March 1996.

According to Mr Steele, the enigmatic author believed there was "nothing more to know about her than her writing".

"But evidence emerging from the study reveals many ways of understanding her demand for a public face separate from a private reality – not least her interest in sexuality in many of its forms."

Continued on Montage 2

The man of straw

From Montage 1

Mr Steele said this interest was evident in the author's first novel, *Maurice Guest*. "The book, which was only ever published in censored form, was shorn of any reference to homosexuality and of some aspects of male and female sexuality and its relationship with art."

As part of the Monash project, a new critical and scholarly edition of the novel will be published next year in the *Academy Editions of Australian Literature*. The edition will include an unpublished portrait of the

author and some 20,000 words edited from *Maurice Guest* before it appeared in print.

According to Mr Steele, the author originally took a man's name to disprove the idea, prevalent at the time, that a woman's writing was distinguishable from a man's.

But in a telling insight into her character, she once wrote in a letter to an American critic: "This Henry Handel is the man of straw I have set up for the critics to tilt at while I sit safe and obscure behind."

Both her personal and business letters show she kept up the masquerade, often referring to herself as Henry Handel

Richardson, and sometimes casually as a "fellow".

One of her most important correspondents, her French translator Paul Solanges, was unaware of her real identity, and Mr Steele said it was possible that an unspoken code operated in literary circles at the time, respecting authors' wishes to remain anonymous.

After leaving Australia in 1888 to study music at the Leipzig Conservatorium in Germany, she married George Robertson and settled in England, returning only once, briefly, to Australia in 1912.

By BRENDA HARKNESS

NOW & THEN

25 Years Ago

Computing facilities have been available at Monash University since 1962 when the Computer Centre was established. The first machine installed was a Ferranti "Sirius" which is still operating, and in 1964 the Centre took delivery of a Control Data Corporation 3200 which has been expanded over the years to keep pace with the rapid growth of computer use in teaching and research.

In February 1969 a Burroughs B5500 computer was installed on a rental basis in order to keep the computing service at a reasonable level while awaiting a Commonwealth Government decision on funds for additional facilities.

15 Years Ago

Monash University scientists and clinicians from 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.

5 Years Ago

Teaching and research has a higher priority at Monash than at any other Australian university.

Figures released last week show that the university will commit almost 70 per cent of its 1991 budget to these two areas.

Monash will spend an estimated \$178 million on teaching and research. The remainder of the \$260 million budget will be allocated to administration, including maintaining computer systems and running the library.

This Month Last Year

A Monash historian is studying more than 200,000 pages of documents found in a secret extermination facility in Cambodia during Khmer Rouge rule in the 1970s.

The documents – confessions extracted from prisoners while being tortured, as well as records of the behaviour of the interrogators – have been microfilmed by Cornell University for analysis.

Leading specialist in Cambodian history, Professor David Chandler, has received a grant from Monash vice-chancellor Professor Mal Logan to purchase the microfilms, which will be stored in the university library.



Spike

I'm sorry, I think you have me confused ...

It would seem that all that glitters is not gold. We've long recognised that our Monash alumni sparkle and shine in a sometimes competitive world. But does this explain the numerous phone calls received by the Alumni Office asking, "Is this the Aluminium Office?"

Life's a bitch

A higher education publication recently reported on various universities' experiences in providing information over the Internet. One anonymous Monash academic has wised up to some modern marketing concepts: "Boy, we've had some lulus. One academic used a photo of his dog to illustrate his home page and we don't want canines confused with our logo."

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When seeing is believing

The study of a woman with a rare brain disorder has revealed a system in the brain which researchers believe subconsciously approves human action.

The two Monash psychologists and their Italian colleague conducting the study said the approval system showed that the brain processed visual information according to predetermined rules.

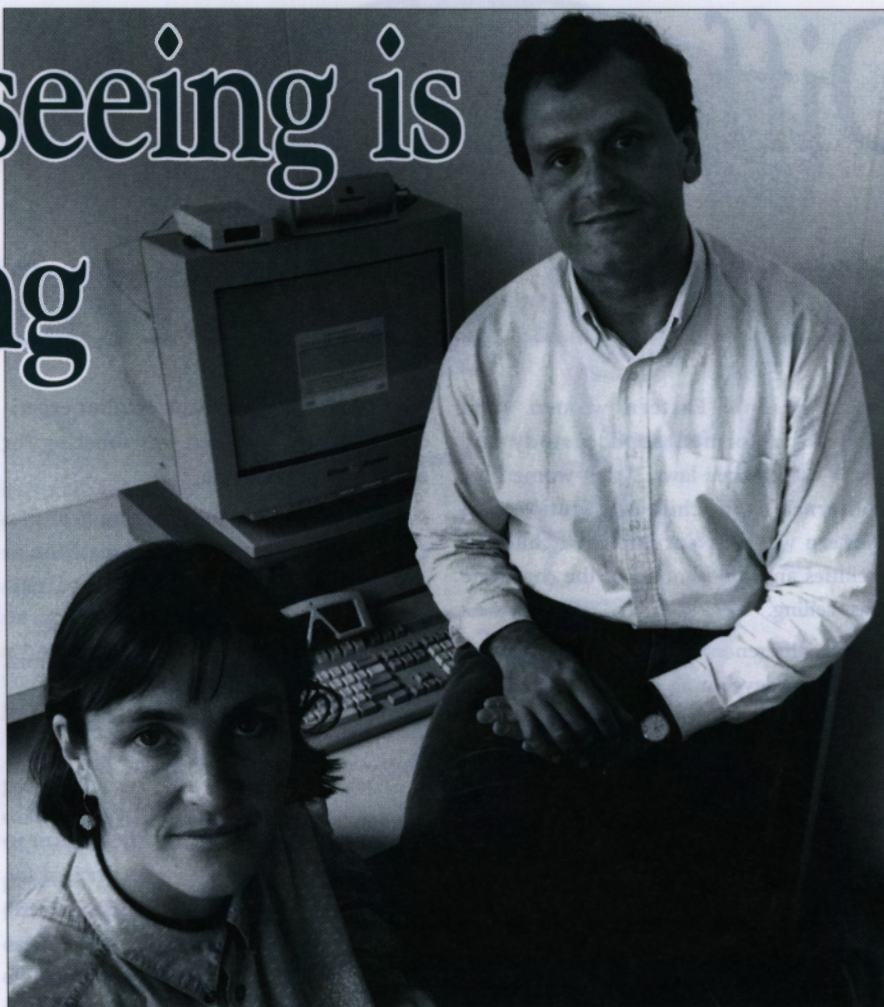
The subject of the study – an Italian woman – has one of only about 10 reported cases of a condition known as simultanagnosia. Her central vision is only aware of one object at a time, even when there are two or more in her view. If she is presented with an apple and an orange, she is conscious of only one of the objects.

But by analysing her actions, Dr Keree Bennett and Dr Umberto Castiello from the School of Applied Science on the Gippsland campus and Dr Marina Scarpa of the University of Modena in Italy were able to demonstrate that the woman had subconscious knowledge of both objects. For instance, she was able to put toothpaste on a brush despite being able to see only one of the two objects.

But the woman's ability to manipulate two objects in a coordinated way while only seeing one of them, occurred only in specific circumstances.

After a series of carefully controlled experiments, the researchers found that the woman could only coordinate actions with two objects when they were either from the same 'category', such as two pieces of fruit or two animals, or were functionally related objects, such as a bed and a pillow or a bottle and its cap.

If presented with two pictures of animals, one of a bear and one of an alligator, despite only seeing one image she could place a forefinger on each of the pictures and place them together. But if the pictures were of a bear and a pair of trousers she could only point to one or the other with



Dr Bennett and Dr Castiello believe they have identified the area of the brain that subconsciously approves human action.

both forefingers together. And if each forefinger was placed on a picture, she could not move them together, because the pictures were not from the same category.

Dr Bennett said the study showed that the human brain processed information at a complex level. "To pick up an apple, all you need to know is how wide to open your hand and how to grasp it, but the brain actually categorises that object as well."

They also believed they had found the area of the brain in which the approval centre is located – the 66-year-old Italian woman's condition appeared a few years ago, after she had two strokes in the occipital region at the rear of the brain (where visual information is processed).

"Other patients with similar lesions are very rare," Dr Bennett said, "So Dr Scarpa is doing more testing on her in Italy. Now we know what we are looking for, we may be able to reveal the operation of this approval system in normal subjects."

In the study, the researchers have been using a sophisticated video camera system which records, digitises and analyses

movement. Known as Elite, the \$500,000 system can locate points in space to less than one hundredth of a millimetre and can determine initiation, speed and acceleration of movement.

In earlier work, Dr Castiello and Dr Bennett have shown that by using the system to analyse minute variations in the control of movement, it is possible to diagnose nervous diseases much earlier than at present and describe them better.

When reaching to grasp a glass of beer, a normal person moves their arm and fingers to open simultaneously, but in the early stages of Parkinson's disease, these movements are clearly stilted.

"There is a lag between the beginning of the movement of the arm and the opening of the fingers. It is only milliseconds but we can detect it," Dr Castiello said.

The Elite system is now being installed on the Gippsland campus, and local neurologists have already begun to refer patients to the two researchers.

BY TIM THWAITES

Different beliefs, common concerns

Middle Eastern women want reformed child custody and divorce laws, Asian women are concerned about child prostitution, and Western women want improved childcare facilities and the removal of the corporate glass ceiling.

The differences between issues affecting women in developing countries and those in developed countries were highlighted at the Women's Forum, held in conjunction with the Fourth World Conference on Women in Beijing in September.

Senior English lecturer and Monash representative at the forum Dr Pauline Nestor said cultural differences, which could have created barriers between participants at the conference, acted more as a conciliatory mechanism.

"While there did tend to be a division between women of developing and developed countries, the encounter between the two groups probably taught each of them a great deal," she said.

More than 33,000 women gathered at the forum to review the status of women worldwide and plan for their future advancement, as well as to lobby government officials at the conference.

Dr Nestor said recognising that women from some developing countries were facing extreme and urgent problems was a "humbling" experience.

"While we talk about a glass ceiling where women are excluded in career choices, some women were talking about exclusion from things such as credit that might allow them any kind of economic freedom," Dr Nestor explained.

"Sexual harassment for some of these women was not about a level of discomfort but about physical threats of the gravest kind, like rape or murder."

According to Dr Nestor, the lack of access to basic education and literacy pro-

grams, the law and a bank account experienced by many women was sobering for conference participants.

The irony of the forum being held in a country notorious for its poor human rights record was not lost on the participants or on the Chinese Government.

"I think there were logical explanations for the conference being held in Beijing including the Chinese Government's desire to prove itself as more open," Dr Nestor said.

She said that while the Chinese Government had been widely criticised for its human rights record, especially its attitude to women's rights, the conference was a positive experience for Chinese women.

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about a glass ceiling
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"In Beijing, and around the country, posters were displayed about the need to support the conference and its aims, which I think validated the lives of millions of Chinese women."

While there were areas of conflict between women at the conference because of cultural and ideological differences,



many participants were frustrated that the discussion and resolution of important issues did not receive the credit they deserved outside the conference.

"The importance of so many women working together, agreeing on joint goals and networking was just never getting a guernsey because there was such a focus on areas of conflict.

"These women came together, sometimes at great financial and physical cost, because they wanted to guarantee the advancement of women in some form or another, and that in itself was extraordinary."

There were issues that the conference participants agreed to disagree on, such as abortion, population control and lesbianism. But despite these differences the message that came out of the forum was that women were not a special interest group — that women's rights were human rights.

BY JULIET RYAN

Child labour — not a labour of love



Child labour is a problem in Australia as well as the developing world and boycotting goods made by children will not end the practice, according to Monash PhD politics student Sharon Bessell.

Ms Bessell, who is researching child labour in Indonesia, said the need of developing countries to attract outside capital with cheap labour was likely to indirectly perpetuate child labour.

She said calls from some countries to boycott goods made by children would drive the practice underground, making it difficult to monitor conditions and offer child workers a degree of protection.

"Trade sanctions would push children out of the export sector into sectors where conditions are even more difficult to monitor."

The introduction of trade sanctions would also make people feel they had dealt with the problem and not continue the push for increased protection for child workers.

Ms Bessell said socio-economic problems were the major contributing factor to the incidence of child labour, with 90 per cent of the practice occurring in developing countries.

However, it was not only a problem for developing countries, with the practice increasing in Britain and the US during periods of recession.

"Child labour should not be treated as a third world issue — socio-economic problems can occur in any country," she said.

A recent Textile, Clothing and Footwear Union study into outworkers in Australia also revealed the existence of child labour in this country.

Ms Bessell said this was because outworkers were paid by each item sewn or made, passing some of the work onto their children.

In some cases, children in poor families were staying home from school to help their parents with the work and increase the family income.

Ms Bessell recently spent four months in Indonesia interviewing government authorities, representatives from non-government authorities and international agencies as well as child workers.

She talked to children working in the streets, child street vendors and children working as scavengers in rubbish dumps in the town of Bekasi on the outskirts of Jakarta.

Ms Bessell said the Indonesian Government believed little would change in the next 20 years because so many Indonesian families were dependent on the income of children.

She said that while authorities should work to eventually eliminate child labour, in the short-term, governments needed to introduce legislation to protect the rights of child workers and ensure they were receiving sufficient education.

Recent Indonesian legislation allows children under 14 years to work for four hours a day under protected conditions.

But Ms Bessell said there was "an enormous gap between legislation and reality" and that the laws were not adequately enforced.

Other child labour laws had been on the drawing board for the past two years, but Ms

Bessell saw little hope of them being implemented in the near future.

She said child labour was often an inter-generational problem, with working children unable to get an education, growing up poor and unable to educate their own children.

However, non-government 'drop-in centres' were springing up in areas where child labour was high, to teach children literacy and numeracy skills. In some centres children were also taught about their legal rights and appropriate wages.

Child labour has attracted much media attention in the past 18 months as well as increased action by international union groups and independent agencies.

The International Program for the Elimination of Child Labour is currently working on eliminating the worst types of child labour, particularly bonded or slave labour, where children are kidnapped or sold by their parents to employers, and child prostitution.

In the carpet industries of South Asia, children are often handed over to employers as part of debt repayments, paid no money, given a minimal amount of food, abused and confined to the factory.

Child labour is the subject of a Monash Asia Institute conference to be held at the university's Clayton campus from 1 to 2 December.

Trade unionists, officials from international organisations and non-government authorities will present papers on child labour and ways of reducing the practice.

BY GEORGIE ALLEN

The greening of Vietnam

Twenty-five years ago, the forests of Vietnam were being stripped by the defoliant Agent Orange. More recently the nation's environment has been threatened by the rewards of peace.

The lifting of international trade embargoes and greater stability in the region have resulted in rapid commercial development of the formerly battle-scarred country.

And, while other 'Asian tigers' have discovered that the first casualty of development is often the environment, Vietnam has shown signs that it intends to avoid the same mistakes.

The country recently passed laws to guard against the worst excesses of industri-

alisation, and Monash University is about to embark on a joint project with UNESCO and Vietnam National University (VNU) in Hanoi to support these green ambitions.

Associate Professor Paul Bishop, co-director of Monash's Graduate School of Environmental Science, has been appointed to a UNESCO *UNITWIN* chair in environmental education at the Hanoi institution.

The *UNITWIN* chairs program was launched by UNESCO in 1991 to strengthen higher education in developing countries and enhance inter-university cooperation.

Dr Bishop's appointment is the first UNESCO chair instituted in Vietnam and the first of its type in the world for environmental education.

"The environment has become a major political issue in Vietnam and, as the nation heads into a boom period, this is the right time to be focusing on it," Dr Bishop said.

The UNESCO chair is worth \$US30,000 to VNU, which Dr Bishop has earmarked to develop a masters degree in environmental science and conduct national and international seminars.

Monash will fund Dr Bishop's two-year involvement in the project, and the university has also called on the expertise of its retired education professor, Dr Peter Fensham, to help get the masters program under way in the 1996 academic year.

Dr Bishop said the course would draw on successful programs run in Monash's Graduate School of Environmental Science and could create opportunities for future student exchanges and international research projects.

The two Monash experts will fly to Hanoi next March to finalise details of the masters degree with Vietnam's

education ministry and to plan future involvement at VNU.

If everything goes to plan, the postgraduate program would be certified as a joint Monash-VNU degree and would draw world attention to the Hanoi university's Centre for Natural Resources and Environmental Studies.

"Our aim is to make VNU a centre of international excellence in training environmental specialists that will benefit not only Vietnam, but the surrounding region as well," Dr Bishop said.

Environmental initiatives

Soon after his arrival, he will be organising a forum for environmental educators from Mekong Basin countries – Cambodia, Laos, Myanmar (Burma), Thailand, Vietnam and the Chinese Yunnan province – to form a regional network for coordinating future environmental efforts.

This will be followed by a national seminar to promote environmental education, and cooperation for such programs, among universities and research institutions in Vietnam.

Dr Bishop's involvement comes after more than 10 years of research and consultancies in South-East Asia.

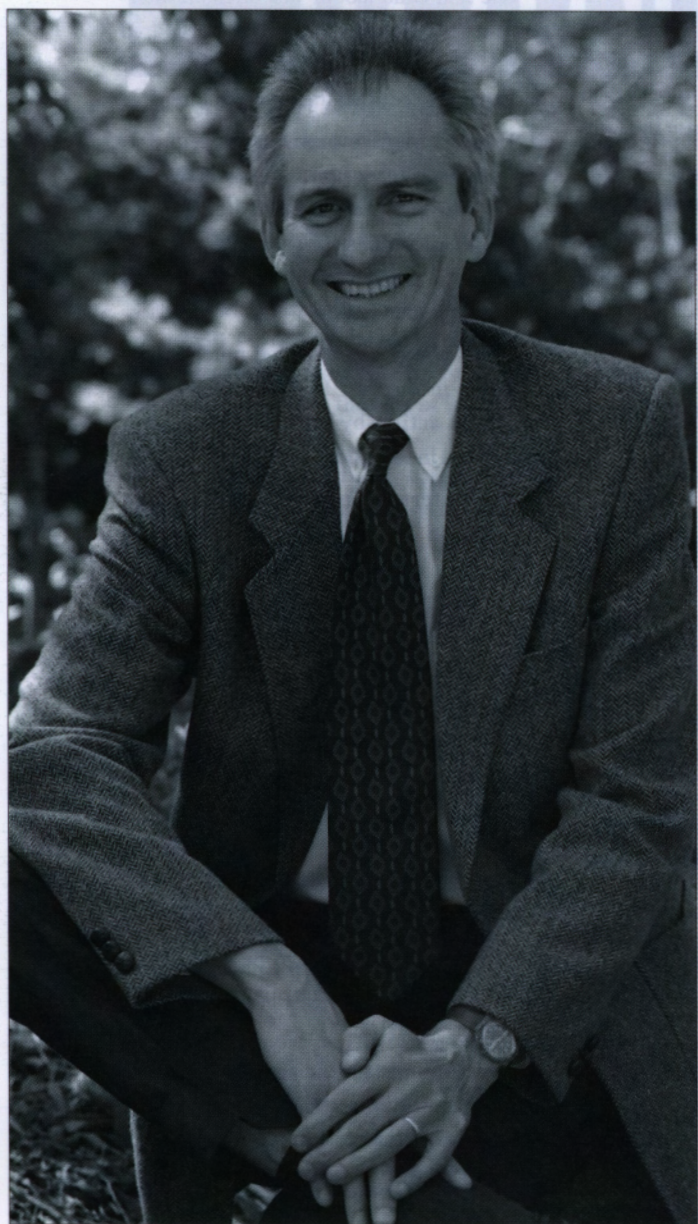
Much of this has been linked to recent commercial and industrial developments, such as assessing the downstream effects of the massive Hoa Binh hydro-electric scheme near Hanoi, but even in the midst of heady post-war progress the problems resulting from past conflict and poor farming practice are not being ignored.

The Vietnamese Government has found the resources for replanting mangroves in deforested areas of the Mekong Delta and, in a quirky piece of symbolism, hills left barren by over-cultivation are being reforested with Australian river red gums.

"They're pretty hardy trees and the only thing that will grow in these areas," Dr Bishop said.

"And once these trees become established, they make it easier for other plants to survive."

By GARY SPINK



Reconciling science and art

When Monash artist Caroline Durré travelled to Antarctica last year she found the continent's scientific features as inspirational as its dramatic landscape.

Durré has attempted to reconcile science and technology with art through her painting and lithographs.

While in the seventeenth and eighteenth centuries artists often incorporated aspects of science into their work, Durré said twentieth-century artists were reluctant to celebrate science.

"These artists have often been very cynical about science, depicting it as harsh and soul-destroying. I am attempting to deconstruct that history and put science and technology back into art."

She spent six weeks in Antarctica drawing, photographing and gathering scientific imagery such as computer printouts, microphotographs of single-cell life forms, NASA pictures of the ozone hole, and maps of antarctic exploration.

On her return, Durré did further research and reflected on her impressions of the landscape before producing her *Iconologies of Antarctica*, which are currently being exhibited at the Access Contemporary Art Gallery in Sydney.

Durré travelled to Antarctica aboard the *Aurora Australis* as part of the Australian Antarctic Division's Public Relations and Humanities Program.

The scheme allows Australians involved in the humanities, such as artists, poets, journalists, historians and film-makers, to travel to Antarctica to learn more about the division's projects and to communicate that information through their work.

Durré's art is reminiscent of the renaissance and baroque periods she claims as her influences.

She depicts emblematic figures that represent specific ideas, particularly from the sciences and humanities. "I am trying

to re-establish the link between the landscape, science and art history."

Inclined to the rich vibrant colours of baroque paintings, Durré found painting in the cool, pale colours of Antarctica challenging.

She said that although Antarctica conjured up images of the sublime, it was no longer appropriate for artists to depict clichéd images of "the great untouched landscape".

"You have to look deeper and uncover the layers of landscape and different layers of meaning."

As part of her proposal to participate in the scheme, Durré expressed her interest in the scientific aspect of the Australian Antarctic Division's work and the importance of that work to the future of the planet.

She said she had always been interested in Antarctica and had done research into the history, science and exploration of the region.

"A lot of the science projects in the area are very important to the fate of the earth," she said.

Antarctica is the coldest, highest and windiest continent on earth. The lowest temperature ever recorded was minus



Allegory of Enlightenment: The emblematic figure of understanding is holding the staff of knowledge while the eagle that "sees further" looks on. The globes on the gates are NASA maps of the ozone layer over Antarctica.

89.6 Celsius at Vostok, Australian Antarctic Territory, in 1983.

It is twice the size of Australia, covering 13 million square kilometres, with an average elevation of 2300 metres, in contrast to 340 metres in Australia.

While in Antarctica, participants in the public relations and humanities scheme lived on the *Aurora Australis*, the first Australian-owned, built and crewed ice-breaker.

Durré is a lecturer and masters student at Monash's Gippsland School of Art. Her work on Antarctica will form an important part of her MA (Visual Arts) by research.

BY GEORGIE ALLEN

Designer genes

Reproductive biologists at Monash are developing technology that may open the door to genetic engineering of domestic stock, producing transgenic designer animals with specific characteristics for specific environments.

The technology, known as embryo multiplication and transfer (EMT), or nuclear transfer (NT), is a way of routinely cloning top-class domestic animals.

It is designed to improve the genetic potential of stock at a much faster rate than present. And unlike current artificial breeding techniques, the new technology will be as applicable and cost effective in beef cattle as in dairy cattle.

EMT is considered so important to the future of the Australian livestock industries that the Embryo Biotechnology Group from Monash's Institute of Reproduction and Development secured a second three-year grant of \$1.28 million from a consortium which includes the Meat Research Corporation, the Dairy Research and Development Corporation and Australia's largest artificial breeding company, Genetics Australia Cooperative Pty Ltd.

"While current artificial breeding techniques are estimated to have increased the milk production of the average dairy cow by 30 per cent in the past 30 years, EMT could achieve similar results within five years of being introduced," said Dr Sandy McClintock, chief geneticist with Genetics Australia and co-leader of the research project with Monash's Professor Alan Trounson.

The research team's veterinarian, Mr Ian Lewis, said that while much of the technology already existed, it had to be further developed to make it robust and easy for commercial breeders and farmers to use.

Geneticists believe that inherited characteristics are responsible for about one quarter of the measurable difference between animals. The environment, including food quality, weather and the chance of catching a disease, accounts for the other three-quarters. The impact of environment means that however fine their pedigree, individual animals may perform poorly, and vice versa.

Mr Lewis said that about half the increase in the milk production of

Australian dairy herds since the 1960s had been due to genetic improvement, and the other half due to better feed, care and management.

The most significant factor in genetic improvement had been the introduction of artificial insemination (AI) in the 1950s. The principle of AI is simple – the semen of top-class bulls is collected and frozen, and then distributed and used to fertilise cows.

To determine that the semen comes from a genetically superior animal and not an ordinary one reared in a better than average environment, researchers can apply a test known as progeny testing or "proofing", which takes about six years.

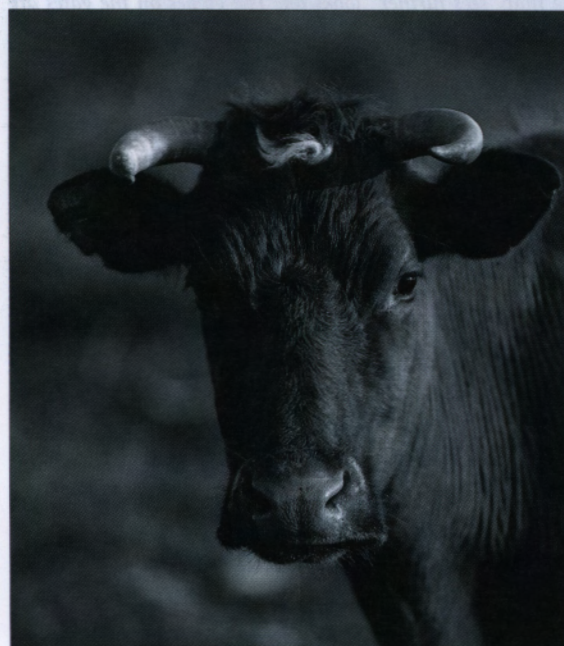
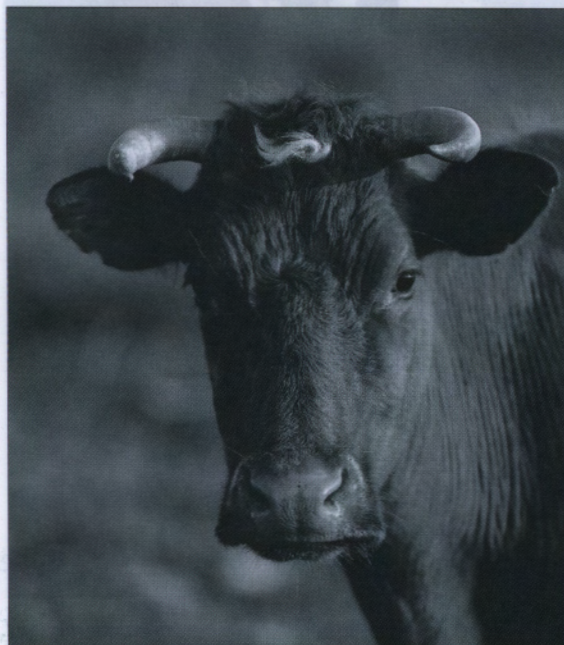
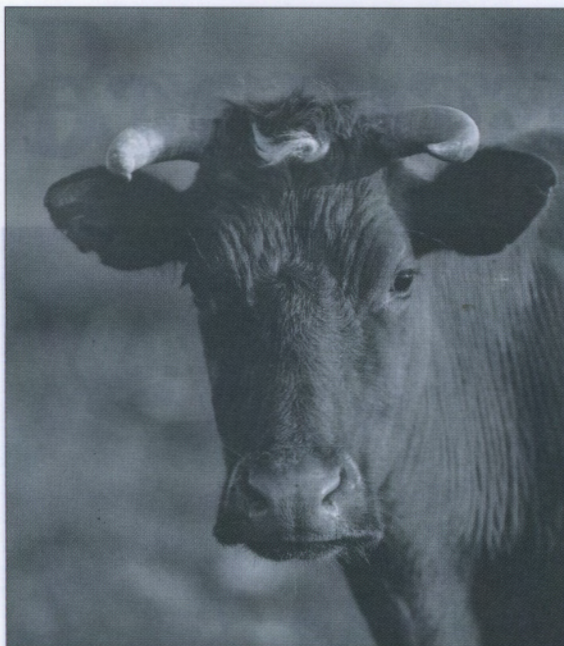
But after six years of assessing the quality of the semen, the influence of the environment can still cloud the issue. A good performing animal at one time in one district may not do so well in another district or in another year, so proofing demands information from as widespread an area over as long a time as possible.

AI works well in intensively managed herds such as those on dairy farms. The farmer sees individual animals nearly every day and can measure performance characteristics such as the quantity and quality of milk on a regular basis. But it is a different matter when dealing with grazing animals, such as beef cattle, in large herds.

AI only works on the male contribution to the genetics of future generations. To improve the female contribution to progeny, an artificial breeding technique known as MOET (Multiple Ovulation Embryo Transfer) was introduced in the late 1970s.

The aim of MOET is to produce more than one calf a year from a good cow. Before the cow comes into heat, she is treated with hormones to make her shed many eggs at ovulation instead of just one. These eggs are fertilised, and about a week later the resulting embryos are flushed out of the cow's uterus. The embryos are then viewed under a microscope and those that are alive are sorted out and implanted into surrogate cows.

Mr Lewis said that with this technique, a good cow could produce an average of 20 offspring a year. But the overall impact of a



top cow is still small compared to a prize bull, and such an intensive technique as MOET is difficult to implement in the beef cattle industry.

Growing identical animals

EMT takes the techniques of AI and MOET a stage further by using the embryos as a basis for cloning elite animals. It stems from the work of Dr Steen Willadsen, a Swedish reproductive biologist who worked at Cambridge University in England in the mid-1980s.

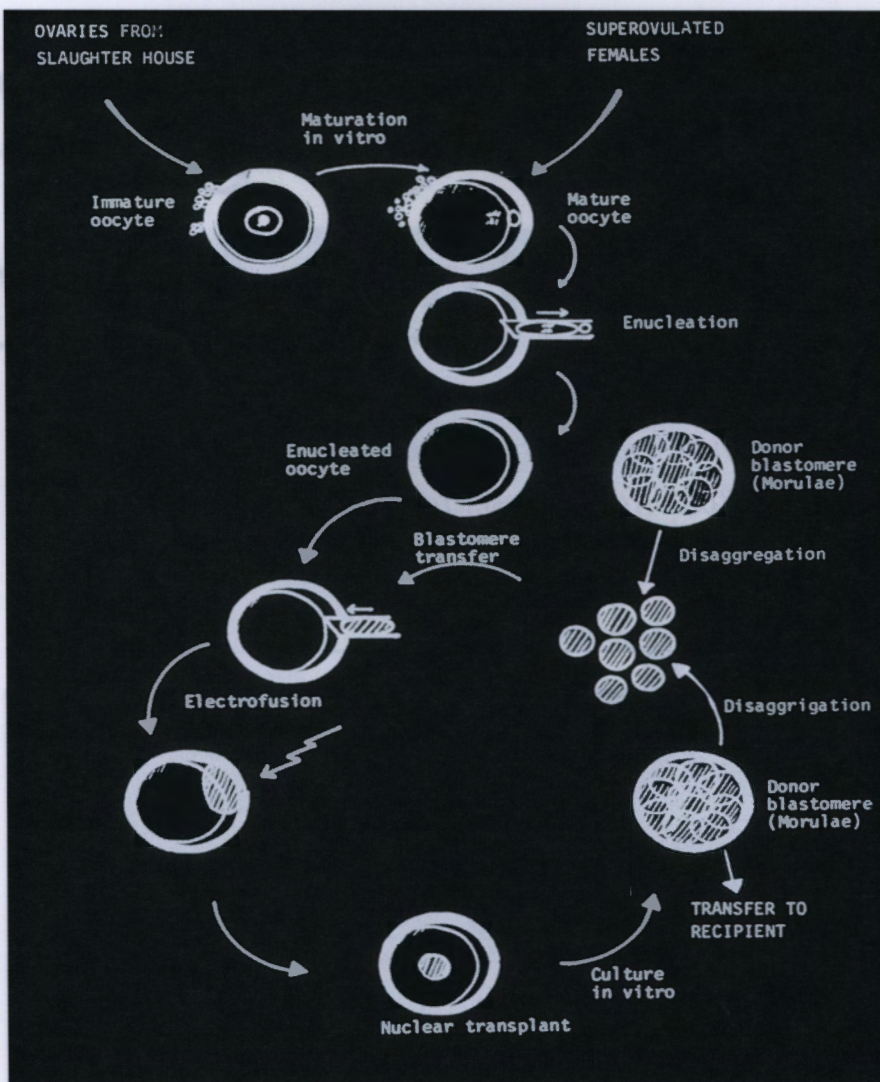
At the earliest stages of embryo development, when the fertilised egg begins to divide and grow, each new cell retains the capacity to grow into a whole individual. For instance, after the first division, it is possible to separate the two resulting cells and have them grow into two genetically identical individuals. When this occurs naturally, identical twins are born. The procedure can also be used with four and eight cells, but in order for each cell, from an older embryo, to grow properly into a complete individual, it must develop from the earliest stages, and so is returned to the single cell.

Dr Willadsen tried the procedure using an eight-cell embryo from a sheep. He separated a cell, and inserted the embryonic genetic material it contained into an unfertilised sheep egg (obtained from an abattoir) from which the nucleus had been removed. After implanting the new embryo back into a sheep, he was able to produce a lamb identical to the lamb grown from the three remaining cells of the original embryo. He found that the same technique would work with embryos of up to about 60 cells.

Dr Willadsen realised that the technique could be used to produce thousands or even millions of genetically identical sheep at will. About 30 to 60 cells can be separated from embryos at this stage of development and grown again to the 30 to 60-cell stage, then separated and grown again, and again, and again.

The advantages for farmers of these cloned embryos are potentially enormous. Embryos can be frozen and stored but once thawed, an embryo can be used to generate as many more as needed. Implanting embryos is already routine under MOET.

Genetic gains in dairy cattle will be large, but significant advances will also come in the beef cattle industry. EMT should allow production of as many identical stud bulls as needed to improve the genetics of a herd.



Mr Lewis said embryos could be produced according to the characteristics that farmers specified.

The Monash research project is working on some of the problems with the technique that need to be solved before EMT can be successfully applied commercially.

In practice, replacing the nucleus of an unfertilised egg with a nucleus from a cell in a developing embryo is not easy. First, the unfertilised eggs taken from the ovaries of slaughtered cows are immature. They need to be ripened to accept the embryo nucleus. This means they need to be cultured in a bath of salts and hormones for about 24 hours. Designing the most appropriate culture medium is the job of the institute's Dr David Gardner.

Then the nucleus of the recipient egg must be removed in a procedure that, until recently, was far too intricate for a commercial operation. The removal was done by piercing the cell membrane and sucking out the nucleus using a fine pipette. The donor cell with its nucleus containing the elite genes was then placed against the mem-

brane of the recipient egg. A small electric current was applied to break down the membranes fusing the nucleus and cell.

The researchers working on the project have been developing easier and more robust techniques. Dr Brendan Tatham has found a way of removing the unwanted nuclei without having to suck each one out individually. After maturing the eggs, they are placed in a sugar density gradient in a centrifuge. The nucleus has a different density to the other components of the egg, so spinning the cells at high speed causes the nucleus to separate from the other components.

The Monash group is separating the cells from embryos at the 20 to 40-cell stage of development, then fusing each individual cell with a recipient egg, minus its nucleus.

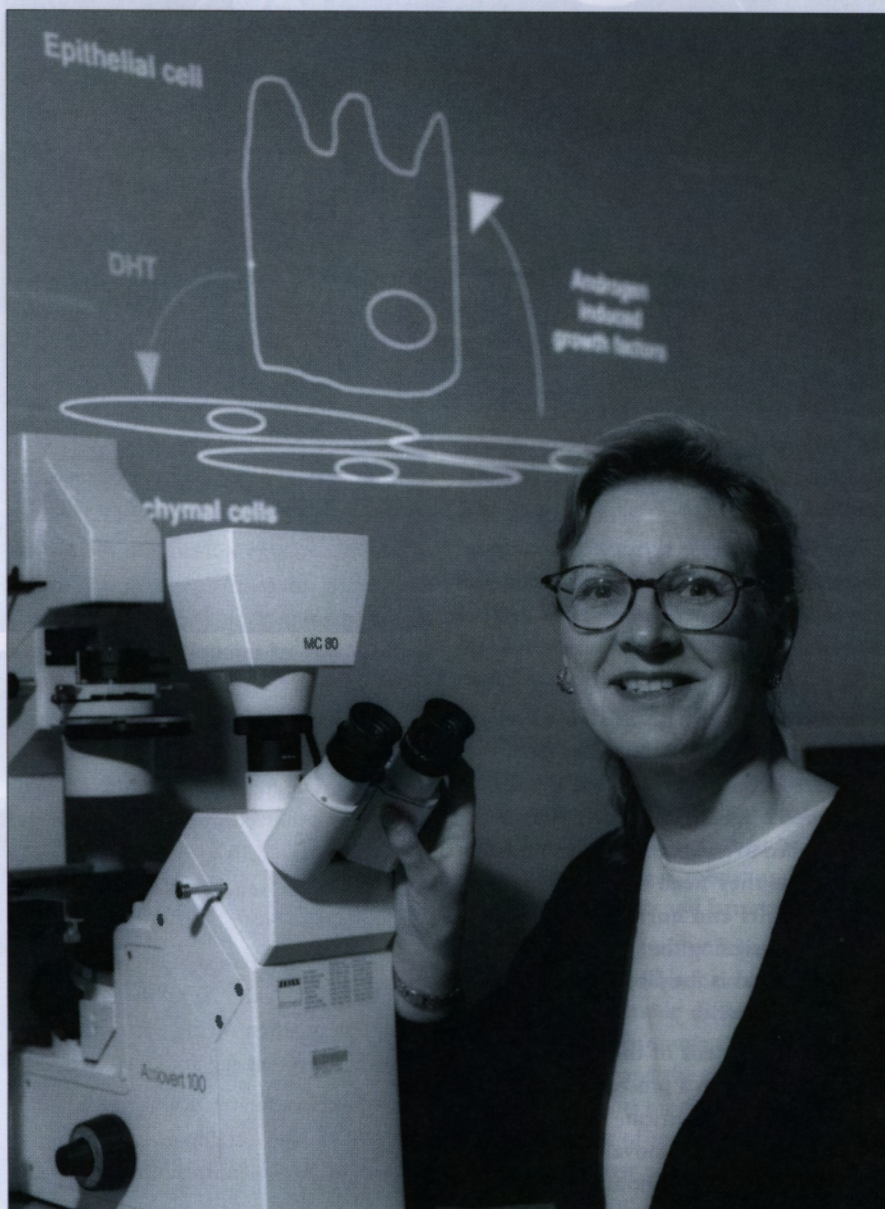
Mr Lewis estimates it will take another five or 10 years to develop a viable commercial system. Monash already holds patents covering several key elements of the procedure.

BY TIM THWAITES

Research targets improved prostate treatment

Monash researchers are looking for a commercial partner to continue research into a protein believed to be active in the development of prostate cancer.

Tim Thwaites reports.



Dr Gail Risbridger examines the epithelial cells where highly concentrated levels of Activin A have been found.

A discovery made at Monash University could help develop improved techniques for the testing and treatment of prostate cancer – a disease as common in men as breast cancer is in women.

A research group at the university's Institute of Reproduction and Development has found that a protein known as Activin A is present in the rat and human prostate gland and in human seminal plasma. If the group determines that Activin A levels change with the development of prostate cancer, then this protein could be used to detect the disease.

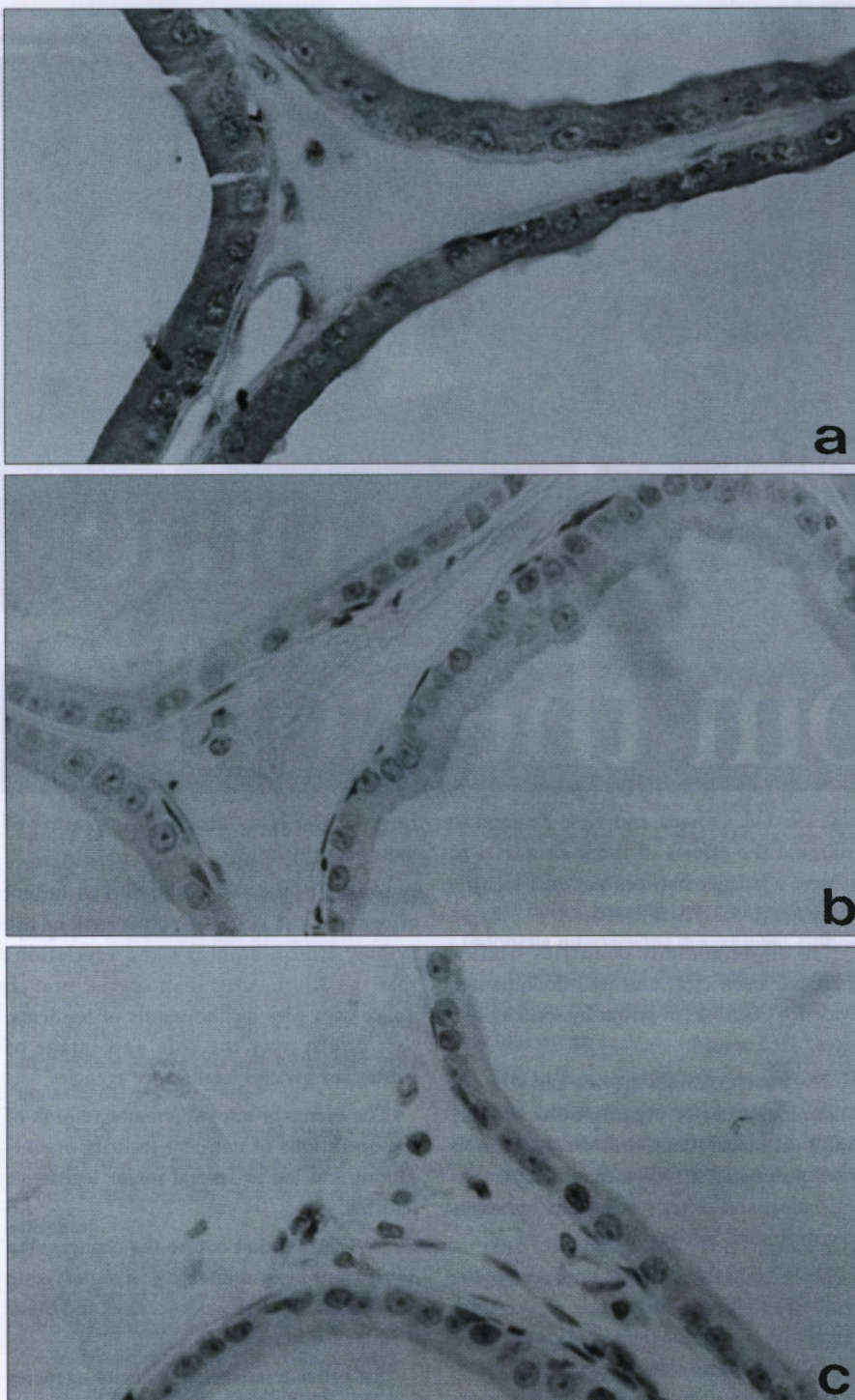
Dr Gail Risbridger, who heads the research team, said human studies were under way but a commercial partner was needed to help continue the work.

In Victoria, almost one in 10 men contract prostate cancer, and about one in 30 die from the disease. In 1991, more than 1500 new cases were reported, with 500 deaths occurring. And these figures have increased steadily at a growing cost of tens of millions of dollars a year to the Australian health budget.

The prostate gland is found only in men. It is responsible for making several biochemical compounds in the semen, the fluid which contains sperm. The gland sits below the bladder, wrapped around the duct called the urethra which carries both urine and semen to the penis.

Compounds made in the prostate are added to the semen at ejaculation. They provide nutrition and chemical protection for the sperm and react with other substances already present in the semen to ensure the whole mixture coagulates after ejaculation.

Prostate problems are common in men over the age of 65 and are not all related to cancer. Between the ages of 40 and 60, the prostate naturally doubles its size in a process known medically as benign prostatic hyperplasia (BPH). Because the gland is encapsulated by an inelastic membrane, this growth can actually push in on the urethra and



The top slide demonstrates the concentration of Activin A in epithelial cells in the prostate in contrast to the cells in slide B and C, where Activin A levels have been controlled.

occlude or close it off. Such a blockage disrupts urination and can be very painful. By the age of 80, about one in every four men will need medical intervention to relieve discomfort in the prostate.

The growth associated with BPH occurs when the non-secretory or stromal cells of the prostate both enlarge and divide. In prostate cancer, it is usually the secretory or epithelial cells lining the ducts which begin to divide uncontrollably. There is, therefore, no automatic connection between BPH and prostate cancer.

Dr Risbridger said doctors had always known that male sex hormones played an active role in both conditions. "Eunuchs, for instance, do not produce testosterone and have a much lower incidence of prostate cancer," she said.

In fact, one method of treatment for prostate cancer is to remove the supply of male sex hormones by physical or chemical castration. This usually leads to a pause in the progress of the cancer (known as remission), although the cancer growth does eventually resume.

The disease can also be treated by removing the prostate gland, but this leads to complications such as a high incidence of impotence or incontinence.

The choice of treatment, and even the ability to intervene, depends on many factors including the stage of the disease, the patient's age and life expectancy, and the speed the tumour is growing. But the earlier the tumour is detected, the greater the options for treatment and success in coping with the disease.

However, Dr Risbridger said that currently the only early warning of disease – a blood test for PSA (prostate specific antigen) – could not reliably discriminate between BPH and cancer. Dr Risbridger believes her research into Activin A could be the key to improved testing techniques for the disease.

The discovery resulted from her research into the way cells communicate with each other. One of the more common means of cell communication is through chemical messengers. Many of these messengers are substances which regulate cell growth, known as growth factors. Some stimulate growth and others inhibit it.

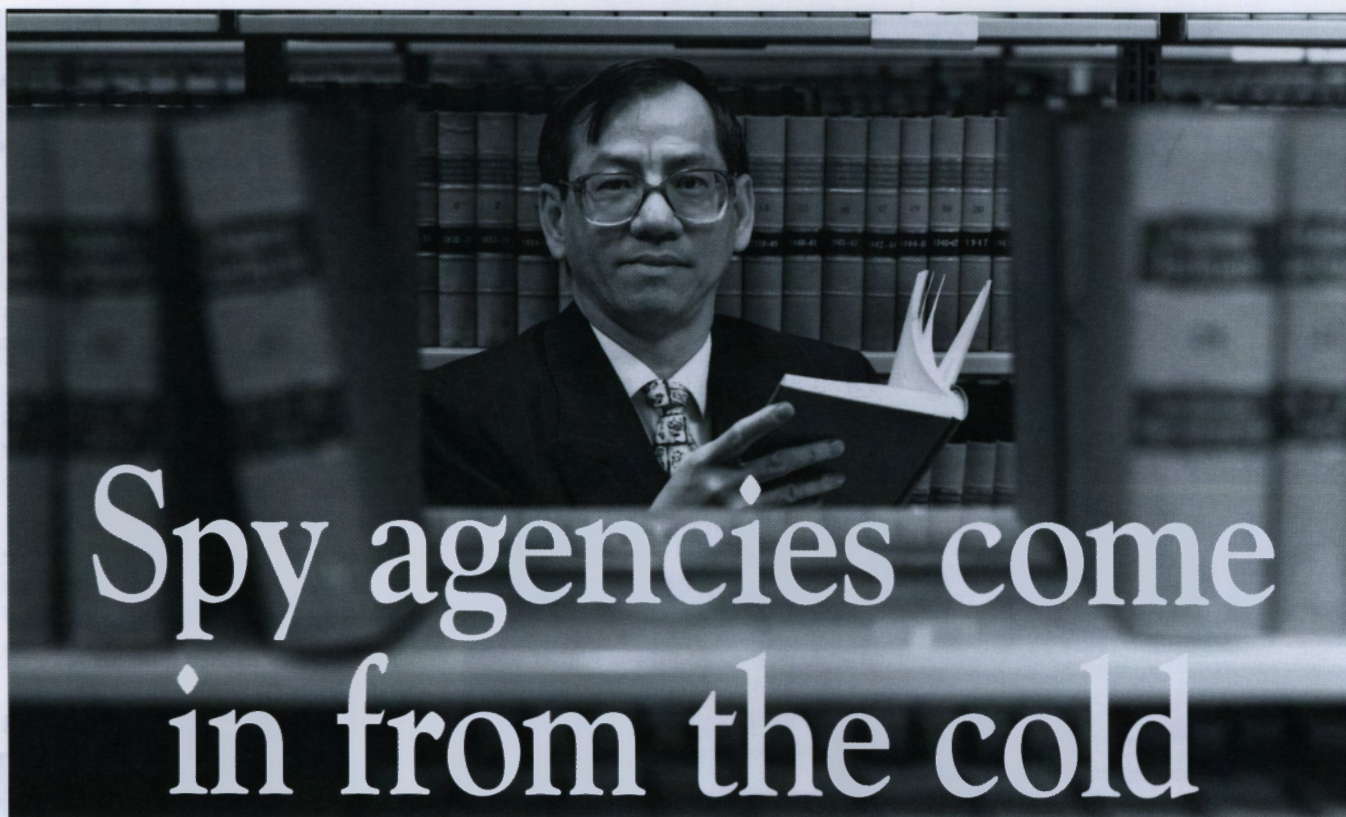
But growth factors do not work in isolation. Sex hormones, for instance, often act by regulating the balance of growth factors and hence controlling organ growth. And it is known that if this process is disrupted it can lead to tumour growth or cancer.

One family of growth factors – the activins – is closely related in structure to the hormone inhibin. So closely related, in fact, that it was during her search for inhibin that Dr Risbridger and her group found that Activin A was highly concentrated in, and localised to, the epithelial cells of the rat prostate.

The group is now trying to determine the precise nature of the relationship between Activin A and the incidence and progression of prostate cancer in rats.

The changing levels of Activin A in the epithelial cells of prostate could be a more useful signal of cancer than the current blood tests. And if Activin A plays a role in triggering or sustaining prostate tumours, then the group's research could improve future treatment of the disease.

Dr Risbridger initiated this work with a grant from the Research Initiative Fund of Monash's Faculty of Medicine, and has continued with a National Health and Medical Research Council (NHMRC) grant. The group is now seeking a commercial partner to supplement the NHMRC funding.



Spy agencies come in from the cold

Lessons learned from past abuses of power by Australia's spy and intelligence agencies have led to improved safeguards against violations of privacy, according to a Monash legal expert.

Associate Professor Hoong Phun (H. P.) Lee said more stringent controls set in place in recent years had forced secret service organisations such as ASIO to be more accountable both to the rule of law and the public.

But Dr Lee said there were no watertight guarantees that civil liberties would be protected when national security interests were at stake.

"This conflict between security and freedom is the dilemma faced by all democracies in striking the delicate balance between protecting national interests and the individual rights and freedoms of residents," he said.

After studying the legalities of national security for several years to produce the first authoritative Australian book on the subject, Dr Lee and his co-researchers believe national security can operate effectively within democratic societies without sacrificing the principles of democracy.

In their book, *In The Name of National Security*, Dr Lee and co-authors Mr Peter Hanks (a former Monash law lecturer now practising at the Victorian Bar) and Mr Vince Morabito (former Monash assistant lecturer in law) drew on research from the

UK, the US, Canada and New Zealand to examine the efforts of those countries to achieve a balance between national security and protection of civil liberties.

"In all democratic countries studied there has been clear and well-documented evidence of abuses of power by security services," Dr Lee said.

The book examines the role and scope of Australian security organisations (mainly ASIO), the legal framework which regulates intelligence and surveillance, official secrets legislation and other restrictions on access to government information.

Dr Lee said that while the purpose of the book was to "reconcile the role of a security organisation within a democratic system", it was aimed mainly at legal practitioners, government and public watch-dog groups interested in monitoring the practices of spying and bugging.

To prevent further abuses of power and strengthen accountability, Dr Lee said the mechanisms currently in place had to be constantly scrutinised and reviewed to ensure public trust in national security was maintained.

The clash between maintaining security and upholding civil liberties in Australia came to a head in the mid-1980s with a series of commissions of inquiry and reviews exposing disturbing evidence of violations of privacy and showing that agencies, including ASIO, often operated

outside the law, "cloaked by claims of national security".

Events of the 1970s and 80s, including allegations of ASIO involvement in the Sydney Hilton bombing and revelations that the South Australian special branch police kept files on thousands of residents, cast doubt over the role and image of Australian spy and intelligence agencies.

The events prompted a major rethink of the operations of national security organisations and led to several major legislative reforms.

Dr Lee said that before the changes, the courts had been ineffective in supervising the operations of security services and other intelligence agencies.

"In order to make its security agencies more accountable, Australia has looked beyond the legal process and the courts to political and administrative controls and review systems."

Dr Lee said the introduction of centralised control mechanisms, such as the creation of a powerful ministerial review agent – the Inspector-General of Intelligence and Security – and effective mechanisms for overseeing ASIO, provided a tighter framework for accountability. The formation of a parliamentary review committee and security appeals tribunal had further reinforced these checks and balances.

BY BRENDA HARKNESS

Old rivals, new directions

Sydney's economy has continued to accelerate while Melbourne's outlook remains clouded by post-recession recovery problems, according to a new Monash study.

The 1995 *Capital City Report*, which compares economic activity between the states and their capitals, shows that while the traditional two rivals continue to dominate Australia's economy, Melbourne's share in national production has fallen.

Director of Monash University's Centre for Population and Urban Research and author of the report, Dr Kevin O'Connor, said Melbourne's overall role on the national scene was less significant than a decade ago as Victoria's economy had become narrower and more specialised.

"Sydney, by contrast, has forged ahead in areas as diverse as housing, airport activity, factory construction, new job opportunities and small business."

Dr O'Connor said the trade-off for Sydney's prominence in Australia's economy was its higher house prices and serious urban development problems, including traffic congestion and overcrowding.

The report also shows strong housing and retail activity in Brisbane and Perth, with housing price increases pointing to greater vitality.

"Their roles in the national pattern have also been strengthened with some increases in commercial construction, especially in the retail area," Dr O'Connor said.

According to the report, Queensland has remained the most popular destination for Australians moving interstate, attracting on average more than 40,000 new residents annually.

Victoria still recorded the highest net losses of people, which Dr O'Connor said had not been offset by inflows of international migrants. He predicted the trend would present problems for service and business sectors such as retailing.

"While Victoria's stake in national retail sales has declined, there has been a big surge in new shop construction, which could see some shopping centres facing difficult times in the future," he said.

But Dr O'Connor said the population drift did not necessarily spell disaster for Victoria: "The state can still produce goods and services for its own population, while capitalising on demand created by increased economic activity in the northern growth centres such as Sydney and Brisbane."

Growth in Victoria's manufacturing base was, to a large extent, feeding off increased building and construction in Sydney's and Brisbane's commercial and housing sectors.

Although the indicators pointed to weaker housing and tourism sectors and only a small drop in unemployment, Dr O'Connor said there were positive signs of steady growth in several of Victoria's specialised manufacturing-based sectors.

For instance, a recent case study of Victoria's furniture industry showed steady growth, indicated by that labour market's higher than average wages.



He said growth in Victoria's manufacturing base was, to a large extent, feeding off increased building and construction in Sydney's and Brisbane's commercial and housing sectors.

Victoria had also strengthened its role in national transport, with recent moves to upgrade transport and communication facilities.

In the long term, Dr O'Connor said the future performance of all the states' economies hinged on making inroads into national and international markets.

He said there were strong signs that the national economy was starting to operate more as a "single economic unit", with the interstate boundaries becoming blurred by better telecommunications and transport links.

"The larger cities can now supply distant state markets by telecommunications and road, rail and air-freight networks. This means, for instance, that much of the new demand in Brisbane and Perth can now be met by firms based in Melbourne and Sydney."

BY BRENDA HARKNESS

Diabetes treatment needs more than a sugar-coated pill

Ten years ago diabetes was unknown in China. Today 10 million people in that country suffer from the disease, and it is predicted that this figure will double by the turn of the century.

China is not the only country experiencing an explosive growth of diabetes. According to Professor Paul Zimmet from Monash's Centre for Molecular Biology and Medicine, diabetes has reached epidemic proportions throughout Asia and Oceania, including Australia.

Professor Zimmet, who is also executive director of the medical services of the International Diabetes Institute, and Dr Matthew Cohen, the institute's director of medical services, have called for the establishment of a National Diabetes Commission to address the epidemic and administer and coordinate increased funding for research and prevention.

They estimate that almost 700,000 Australians have diabetes and that the disease and its consequences cost Australia \$4 billion a year.

In calling for the commission, they wrote: "If diabetes were an infectious disease, alarm bells would be ringing loudly."

Diabetes is a condition whereby the body loses control of its ability to convert sugars into energy. Without treatment it can lead to serious complications including kidney failure, blindness, heart disease, strokes, amputations and impotence.

The disease comes in two forms. Insulin-dependent diabetes, the more immediately serious form, is treated by injection with the hormone insulin. Non-insulin-dependent diabetes can be managed with the correct diet and exercise, but tablets are often required. It is this latter form which is on

the increase world-wide. Like cancer, it has many different causes, but obesity is often the trigger, especially in people over the age of 40.

Professor Zimmet and Dr Cohen said that research, care and prevention of diabetes receive less government funding than equivalent HIV programs even though diabetes affects more than 100 times as many patients as AIDS and is a multimillion dollar burden on the health system.

"This is not meant to downplay the resources committed to AIDS but to highlight the paucity of resources available to address the mounting diabetes epidemic in Australia," they said.

"Diabetes care is funded through a hotch-potch of federal (Medicare, National Diabetes Supply Scheme, Pharmaceutical Benefits Scheme and General Practice Division grants) and state government sources (public hospital and community health). Lack of coordination may be as costly as lack of resources."

Australia and Monash have been at the forefront of developing tests for the early detection of diabetes. But because the value of early intervention in cases of non-insulin dependent diabetes is yet to be proven, the researchers do not recommend routine mass screening at this stage.

But they do argue for using a simple blood test to monitor people at high risk of diabetes. These include particular ethnic groups – Aborigines, Pacific Islanders, Indians, Chinese and Southern Europeans – people with a family history of diabetes, those over the age of 50 and the obese.

BY TIM THWAITES



Almost 700,000 Australians are suffering from diabetes, leading to concerns that the disease has reached epidemic proportions.

Variety in languages is the spice of Australian life

The diversity of languages spoken in Australia is an untapped business resource, according to a book published by Monash University researchers.

The book, *Immigration and Australia's Language Resources*, is the result of research conducted by the university's Department of Linguistics, in conjunction with the National Languages and Literacy Institute of Australia.

The book's authors, Sandra Kipp, research assistant at Monash's Language and Society Centre, Michael Clyne, head of Monash's Linguistics department and Anne Pauwels, until recently associate professor in Linguistics, said advancement in multicultural policy had largely overlooked the potential of language resources.

With Australians speaking more than 100 languages other than English (LOTEs), as well as 150 Aboriginal dialects, language presented an important resource for Australian business, especially with Asian and Middle East languages overtaking traditional European languages.

Professor Clyne said cultivating, instead of ignoring, languages in Australia could have far-reaching consequences both economically and culturally.

The book reflects on the development and application of Australia's language policy, analyses language statistics from the 1991 census and profiles several languages spoken in Australia.

It also looks at the costs and benefits to Australia of language maintenance and the issue of LOTEs in the workplace.

The authors recommend nurturing languages in Australia by giving all Australians the opportunity to be bilingual or multilingual regardless of their background.

"There is also a global aspect to the argument for the maintenance of languages and cultures.

"Australia's multiculturalism and multilingualism is its door to a world at the threshold of a new era of technology, communication and international interaction."

The book was launched by Whitlam Government cabinet member Mr Al Grassby at a recent multicultural conference held at Monash to celebrate the 21st anniversary of the Centre for Migrant and Intercultural Studies.

Mr Grassby, a key player in the introduction of Australia's multicultural policy in the early seventies, said previous resources given to languages had been "tokenistic".

He said Australia had not made optimum use of the diversity of languages in the country, but he believed the "myth of monolingualism" was being overcome.

The book is published by the Australian Government Publishing Service, Canberra. RRP \$19.95.

Pioneer Players: The lives of Louis and Hilda Esson

By Peter Fitzpatrick

Published by Cambridge University Press

RRP \$29.95

Louis Esson (1878–1943) has come to be known as the 'father of Australian drama'. A passionate advocate of Australian theatre and literature, he won early acclaim as a playwright and founded the Pioneer Players.

Hilda Bull (1886–1953) married Louis in 1913 and was perhaps best known as Louis Esson's wife. Yet she had her own

distinguished career in both radical theatre and as a doctor in public health.

Peter Fitzpatrick is associate professor of English and director of the Centre for Drama and Theatre Studies at Monash University.

Hotel Asla: An anthology of Australian literary travelling to the 'East'

Edited by Robin Gerster

Published by Penguin Books

RRP \$16.95

For more than a century, Australia's most prominent writers have been travelling to

Asia – exotic travel destination, economic saviour, source of ancient religions and site of the Pacific War.

In this anthology, 19th-century wanderers, military men, missionaries, journalists, novelists and tourists tell of their travels and impressions of Asia.

The stories reveal as much about the writers' attitudes and perceptions of Australia as they do about the countries they travel to.

Dr Robin Gerster is a lecturer in Monash University's Department of English, specialising in Australian literature.

All books in this column can be purchased in the Monash University Bookshop, Clayton campus.

Should men remain silent?

From Montage 16

surface. Private mental reservations and silent acts of rebellion abound, of course, but these are no doubt merely reflections of our peculiar epistemic condition, our alleged inability to accurately comprehend and identify with the true position of the

oppressed and suffering because our standpoint is unavoidably privileged and, therefore, tainted.

These may be just self-justifying observations, however, designed to justify silence born of fear, laziness, apathy and acquiescence. On the other hand, perhaps it is time for privileged males to lapse into silence. In any case, if we need justification for our silence, there are other, more ancient sources than those I have suggested. I am

put in mind, for instance, of a disturbingly clear (male) voice from the eighth century BC: "No wonder the prudent man keeps silent, the times are so evil" (Amos 5:13).

Steven Russell is a lecturer in sociology at the Gippsland campus of Monash University, and a member of the Standing Committee on Ethics in Research on Humans. His book *Jewish Identity and Civilizing Processes* is to be published by Macmillan early in 1996.

Sociology lecturer Dr Steven Russell believes that the perceived inability of white, middle-class men to comprehend and identify with the position of Australia's disadvantaged and suffering has led to reticence by many men to speak out on important social issues.

Should men remain silent?

The twentieth anniversary of the dismissal of the Whitlam Government was more poignant for me than I had expected. I couldn't truthfully suggest that rage (or any similar emotion) was rekindled in me to any discernible extent. Rather, I was reminded of an aspect of myself with which I am not very familiar these days.

I was 18 at the time of the dismissal and on leave from my first real job. I was on my way home from a day at a Perth beach, and I read about it in the now defunct *Daily News*. I still own the copy. I was shocked and afraid. I felt and spoke about it for the next few weeks with a passion which seems hardly credible to me now – I actually cared so deeply about a political issue.

I suspect I am not the only one among my contemporaries who was struck by these kinds of reflections. Where has all the 'sixties' idealism and engagement gone, the passionate response to issues and the ability to speak up on behalf of those who are disadvantaged or suffering the effects of some injustice? Is it simply an aspect of the ageing process, the (perhaps) lamentable loss of yet another youthful capacity for passion? Can it really be blamed on the pressure of time, work and money? Is it laziness, perhaps, or 'compassion fatigue' or cynicism working its way ineluctably through our systems?

There are even less charitable explanations. Roy Eccleston suggested in a recent issue of *The Weekend Australian* magazine, for instance, that we were all intimidated by

a new kind of ideological orthodoxy and too afraid of retribution to say what we are really thinking and feeling. "The fact is, too few people are willing to make a noise," he writes. "Many are just too scared by the thought of counter-attack ... Maybe Ita Buttrose was right when she said ... that we're a nation of wimps."

It seems these questions are being asked about males in particular at the moment. Where are the men when it comes to the hard work of feeling, thinking and acting about social justice issues? Is this another example of the uneven distribution of labour along gender lines – especially emotional labour?

If men are, in fact, more reticent to speak about such issues, then perhaps it is not fear and intimidation *tout court* which effectively silences us, as Eccleston's article suggests. I am sure the capacity for compassion and moral indignation has not deserted us completely, nor has the desire to speak and act on behalf of those who are victims of injustice or unfairness. For many of the men I know, it is more accurately attributable to a sense of moral disqualification, an attenuation of our right to speak. This flows from an awareness that if it is middle-class European males who are ultimately the cause of at least the bulk of oppression, injustice and misery in the world, and who benefit from the status quo, then we are undoubtedly the least qualified to cry unfair.



It was possible for a time to draw some comfort from the thought that we more liberal, sensitive men were 'exception' males, definitely on the side of oppressed women, and attuned to the needs and voices of minority groups. We were identified with them, and excluded from the censures directed toward the oppressors. Self-righteous confidence in our exceptional status was always destined to wane, however, and finally to crumble.

I suppose one of the critical moments for many of us was the publication of Susan Brownmiller's *Against Our Will*, at almost the same time, ironically, as the Whitlam dismissal. Early in the text, Brownmiller defines rape as "nothing more or less than a conscious process of intimidation by which *all men keep all women in a state of fear*". The italics were fully intentional and meant, as the rest of the book makes abundantly clear, to allow no exceptions. We are, all of us males, guilty of this conscious intimidation and all benefit from its insidious implications. I read the sentence numerous times to see if I couldn't find some way to re-establish my exceptional status, as did many of my friends who were fully in sympathy with the feminist critique and program. It was a hopeless task. It couldn't be done.

The shock has worn off by now, and most of us are resigned, as a result of constant reiteration, to accepting our complicity in evils perpetrated on women and other vulnerable groups. At least on the

Continued on Montage 15