

UNIVERSITY OF Otago

M A G A Z I N E

ISSUE 15: OCTOBER 2006

OTAGO INNOVATION LTD: TURNING BRIGHT IDEAS INTO COMMERCIAL REALITIES
FORMER GOVERNOR-GENERAL DAME SILVIA CARTWRIGHT
DOCTORS ON TOP OF THE WORLD
OTAGO'S COLLEGE LIFE



Te Whare Wānanga o Ōtago

UNIVERSITY OF OTAGO
m a g a z i n e

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Managing editor Claire Ramsay

Editor Karen Hogg

Designer Peter Scott

Contributing writers Simon Ancell
Simon Cunliffe
Claire Finlayson
Karen Hogg
Nicola Mutch
Jill Rutherford
Anne Smith
Ainslie Talbot
Rob Tipa
Mark Wright
Nigel Zega

Photography Lynley Cook
Ross Coombes
Alan Dove
Ken George
Reg Graham
Todd Sisson: Lighthaus
Bill Nichol

Advertising Ruth Mackenzie-White

Printing PMP Print

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Editorial contact details

University of Otago Magazine

Marketing and Communications

PO Box 56

Dunedin

New Zealand

Tel 64 3 479 8679

Fax 64 3 479 5417

Email mag.editor@otago.ac.nz

Web www.otago.ac.nz/otagomagazine

Submissions

Contributed articles and letters should be addressed to:

The Editor, University of Otago Magazine, at the above address or email mag.editor@otago.ac.nz

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VICE-CHANCELLOR'S COMMENT

More than half of the students who come to Otago start their campus life in a residential college or hall. An article in this issue (page 30) notes that the existing Halls of Residence at the University are being renamed as “colleges”, to reflect more accurately the role they play in providing academic and pastoral support – as well as accommodation – for students.

The University Council was briefed in June about the intention of six existing Halls of Residence – Arana, Carrington, Cumberland, Hayward, Salmond, and Studholme – to change their names to “colleges”. They will join six existing Residential Colleges: Aquinas College, City College, Knox College, St Margaret’s College, Selwyn College and University College.

Otago’s 12 colleges offer something quite distinct from the hostels and halls at most other universities. Ever since the establishment of Selwyn in 1893 and Knox in 1909, our colleges have sought to be academic communities that offer far more than just bed and board. Together with Toroa International House, they provide a residential learning environment that is unparalleled in this part of the world – except perhaps at the University of Melbourne.

All of the colleges at the University of Otago offer tutorials for students and many have their own libraries. There is a major emphasis on providing pastoral care to students, which is partly achieved through the active involvement of senior members of the University. All of the colleges are owned either by the University or by charitable organisations; in contrast to many universities, Otago has not delegated this function to external businesses.

In the last three years, we have spent more than \$30 million in expanding and enhancing the facilities at University College and Arana College, providing an additional 275 beds.

We regard our Residential Colleges as one of the most important features of campus life at Otago. The colleges give students an opportunity to get to know people from all over New Zealand – as well as many other countries – who are studying for a wide range of careers. Often they end up going flatting with some of these new friends. When I attend alumni functions in different parts of the world, I continually meet graduates who tell me that, by living in a Residential College, they made some of their closest friends for life. This has been my own experience, and I am delighted that the opportunity is available for so many students at the University of Otago.

A handwritten signature in blue ink that reads "David Skegg".

*Professor David Skegg
Vice-Chancellor – University of Otago*



Dame Silvia Cartwright: "... I don't say things I don't mean and I try not to be a distraction ... I'm not a politician."

Nothing like a Dame

Former Governor-General Dame Silvia Cartwright has had a stellar career in public life. It began with a law degree at the University of Otago.

ONE OF THE BURDENS OF PUBLIC OFFICE IS THAT YOU can kiss goodbye to anonymity. But some people have the knack and the gracious good humour to wear this imposition lightly. Dame Silvia Cartwright, whose term as Governor-General ended on 4 August, is one of them.

“This is one of the few countries in the world where someone in my position can safely go around the city at any reasonable hour and be part of the ordinary community – and we need to treasure that.”

Seated in the Vice-Chancellor’s reception room in the University of Otago’s registry building, she is relating a tale of movie-going, a generous smile constantly threatening to dismantle her official composure. Relaxed and friendly, she could be your well-spoken next-door neighbour.

But back to the picture theatre. Her companion was in the ticket line, while she queued for ice-creams. The woman

immediately in front, but with her back to the Governor-General, was heard to say to a friend, “I could have sworn I saw Silvia Cartwright outside”.

At which point Dame Silvia tapped the woman on the shoulder and said, “Hello!”

The women collapsed into fits of embarrassed giggles, so much so that they had to leave the queue. “They completely lost it, and I got to the front of the queue, and my ice-creams, much more quickly,” she laughs.

“I have accepted that my face is known in New Zealand and indeed in other countries ... but I am still myself. People say, ‘Are you allowed to go to the movies?’ and I say, ‘Who’s going to stop me? If I want to go to the movies, I’ll go.’”

It is a long journey from being an often solitary female student in the law lecture rooms of the University of Otago in the 1960s, to audiences with sultans and princes and



potentates as New Zealand's de facto Head of State. But it is a journey that Dame Silvia has accomplished with grace, dedication and not a little hard work.

It hasn't always been easy. Reading between the lines, being one of two young women in her year at law school was challenging.

"It toughens you up," she says, adding that she wishes that she had been "more integrated into the University". Coming from a Dunedin family of builders and artisans, and being among the first generation to go on to tertiary study, there had been no great tradition of book work.

"I didn't know how to study, and I was fairly isolated for two or three years," she says, adding that she might even have learnt more if she had chosen an arts degree. "But I'd never have done what I have ... and the law is something I love ... I just love the ideas and the humanity of it."

She began practising law in Dunedin. "The only women in the court were the typist taking down notes and, sometimes, the clerk. There were some wonderful stories from my early days," she says with a twinkle. "Being told what to wear, that my skirt was too short, that sort of thing – I don't know why the judge noticed that, frankly!"

In Hamilton she became a partner in the litigation side of a practice. The Matrimonial Property Act of the late 1970s ensured that there was no shortage of work. "Litigation in the area of family law became the norm – there was suddenly something to argue about," she says, explaining the change to a presumption of a 50/50 split in matrimonial property regardless of who "owned" or earned it.

An appointment to the newly-created specialist Family Court Bench followed, and in 1987 she was asked to chair the

Commission of Inquiry into the Treatment of Cervical Cancer and Other Related Matters at National Women's Hospital. The Cartwright Inquiry, as it became known, was to be a landmark in New Zealand medical history.

"I had about eight terms of reference ... but at its fundamentals, it was a story that teaches us a lot of lessons – the ethics of research – that brought into New Zealand some writing on the whole issue of informed consent which had never been touched on before.

"So something that I did as a distraction from my everyday life (as a Family Court Judge) turned into a huge and very interesting series of events."

She was "totally flabbergasted" when she was subsequently asked by Attorney-General Geoffrey Palmer to take on the role of Chief District Court Judge. "It was clear that he had decided that I could cope with public life ... and that I hadn't made too many mistakes. He wanted a woman to be the Chief Judge and I was going to be it whether I wanted to or not!

"He was a great mentor of women, and you don't say no to him."

It was while she was Chief District Court Judge that Margaret Shields, the then Minister of Women's Affairs, approached her to ask if she would be prepared to have her name go forward as a prospective member of the United Nations Committee on the Elimination of all Forms of Discrimination Against Women (CEDAW).

"I had to ask what it was all about," she admits frankly, "and then I heard that you had to go to Vienna and New York once a year, so I said, 'Right!'"

Again it was a welcome break from the rigours of the Bench. "The work of a judge is relentless. Not many people

It is a long journey from being an often solitary female student in the law lecture rooms of the University of Otago in the 1960s, to audiences with sultans and princes and potentates as New Zealand's de facto Head of State. But it is a journey that Dame Silvia has accomplished with grace, dedication and not a little hard work.



Photo: Todd@Lighthouse

understand this. You finish one case and you have a reserve decision to write and you've got weekends only, because you don't have much time off out of court. And you might get one done, and you think 'Good, right, done it', then you realise you have another three waiting."

But CEDAW was also fascinating in its own right. There were 23 elected members with people from five regions: East and West Europe, Asia, Latin America and Africa. "In my time it was always women – from different cultures and speaking different languages. So that in itself was fantastic, but the work was really very interesting."

It also gave Dame Silvia a glimpse into the workings of the United Nations, an organisation that is often maligned these days. While not blind to its failings, Dame Silvia believes that it remains an essential agency.

"There is a lot of reorganisation in terms of process that should be done and the UN missed a great chance to implement its reform programme last year ... but it is not an independent entity.

"It is up to the countries of the world to make the system work ... and what would the world be like if there were not a forum where countries could go to discuss conflict? Who would mediate these disputes?" she asks, alluding to war-torn Lebanon.

She points also to the often ignored, but invaluable, work performed by its various agencies – the World Health Organisation, the Food and Agricultural Organisation, for example – and the various treaties and conventions they broker. Without the Convention of the Rights of the Child we would not have our domestic law relating to the rights of children, she says.

It is a subject dear to her heart. At her swearing in ceremony on 4 April, 2001, Dame Silvia said: "We may lead the world in family violence legislation and policy but, at least on the face of it, we are also at the forefront in the perpetration of child abuse, family violence and serious sexual assaults."

She returned to the theme as she opened the annual conference and AGM of the Child Abuse Prevention Services New Zealand in September 2004. And, in the wake of the

Kahui twins' tragedy, it is a subject that is still firmly at the front of her mind.

Have we made progress in the area? "I'm not sure that we have," she says. "I think the public concern is now intensifying and something will come out of that ..."

As always, when speaking for public consumption, she treads a fine line between "unifying force" and opinion former. It's a high-wire act that she is now well used to.

"To some degree you have to express opinions because you are invited to open conferences and you try to direct what you say to the [niche] audience," she explains. "Sometimes things pop out of these speeches that the general public finds unusual, interesting or startling ... and that's just the way it is.

"But I don't say things I don't mean and I try not to be a distraction ... I'm not a politician."

From her position as Chief District Court Judge, Dame Silvia was elevated to the High Court, the first woman in New Zealand to achieve this, before taking the oath of office as New Zealand's 18th Governor-General in 2001.

It is a role that has evolved over the years, including, she says, during her own time. There is less emphasis on the ceremonial and more on celebrating excellence and promoting New Zealand's identity and sovereignty.

Her next big challenge will be as a trial judge on the War Crimes Tribunal in Cambodia. More public service, and more hard work. It not something she's ever shied away from. And it is this, along with her solid Otago education, that has stood her in such good stead.

"This Dunedin community understands hard work," she says. "We also had excellent educational opportunities.

"And I still think Otago University is ..." She stops and laughs, a hint of self-deprecating mischief penetrating her perennial mask of diplomacy.

"Well I can't say *the* best university in New Zealand because I'm a unifying force ... But I do think it is a *world-class* university."

Simon Cunliffe



KUNDE HOSPITAL खुन्दे अस्पताल

Doctors on top of the world



*Otago graduates returned to Kunde for a reunion in April 2006.
Back row, from left: Paul Sylvester, Kobi Karalus, John Wilson, John McKinnon, Richard Evans.
Front row, from left: Mike Gill, David Murdoch, Lindsay Strang, Lynley Cook, John Reekie, Phil Houghton.*

University of Otago medical graduates recall their time spent working among the Sherpa people at Kunde Hospital, Nepal, – and the difference this has made.

SIR EDMUND HILLARY PUT NEW ZEALAND ON THE WORLD map with a series of famous firsts – conquering Mount Everest, driving to the South Pole and jet-boating up the Ganges.

His record-breaking expeditions took years of planning and effort, but they pale into insignificance beside his most satisfying achievement.

Hillary didn't set out to transform the lives of Nepal's Sherpa people, but that's what he did with help from many Otago graduates and others. Hospitals set up by Hillary's Himalayan Trust at the request of the Sherpas are now becoming self-reliant after 40 years of New Zealand-led support.

Many of the doctors who volunteered their skills for two-year placements graduated from the University of Otago. A reunion held at Kunde Hospital in Nepal earlier this year was

much the same as an alumni gathering – but a lot colder than most. At 3,840 metres Kunde is one of the world's highest hospitals, well above the summit of Mount Cook and almost half the height of nearby Mount Everest. Throughout various climbing expeditions to the area, Hillary's teams worked on community projects – putting in water supplies, constructing schools, bridges and an airstrip, helping build an infrastructure for some of the poorest people in a very poor country.

At the end of a 1963 trip, Hillary asked climbers and Otago Medical School graduates Mike Gill and Phil Houghton to stay for three months to run a clinic especially for Sherpas. Before that the only local medical assistance had been from trained members of climbing expeditions passing through this remote area.



Photos: Lynley Cook

Phil Houghton remembers the 15-day walk from Kathmandu into the mountains: “Every evening in the camps we were besieged by the locals coming for medication. Some people had serious problems. What do you do? Do you give them a couple of aspirin?”

Houghton and Gill did dispense a few aspirin, but they also helped patients with a range of familiar problems such as infections, broken bones, tuberculosis, pneumonia, toothache, dysentery and eye problems.

Their work prepared the way for the building of Kunde Hospital three years later, and Otago graduate John McKinnon became the sole doctor.

McKinnon had been in the area with Hillary as a student in 1964. “At that time I thought it was a great chance to travel and climb in the Himalayas. I little realised just how much it would change my life. As the first resident doctor in the region it was an astonishing and rewarding experience. It was a revelation for a young Kiwi.”

For the first few months McKinnon and his new wife Diane worked with a construction team setting up the 10-bed facility, and were visited by researchers working on iodine deficiency.

At the same time another Otago graduate, Dr Kaye Ibbertson, was establishing a goitre research programme that was to improve Sherpa health dramatically. Initial successes included iodine injections, which stopped goitres and cretinism almost overnight.

Soon the McKinnons found themselves alone, 14 days’ walk from the nearest road, five days’ from the nearest Europeans and two days’ walk from an airstrip.

“We were thrown into the community, which was open and generous and welcoming – which has been everybody’s experience at Kunde. As new graduates we knew everything and nothing at the same time.

“We came from a culture where things could be done for people. Here we had to accept that there were times that you could not do anything – people died. But for the most part people got better because we had treatments for them.”

Lack of communications meant the McKinnons had to be totally self-reliant. Letters sent by runner to Kathmandu might expect a reply in three months.

There was progress. To assist with the management of TB the couple trained village workers to monitor patients and give injections. The long-term aim was always to help the people to help themselves.

After Kunde, McKinnon trained in ophthalmology, and returned regularly to Nepal to work and help out with Hillary’s continuing aid projects.

“People who went out to Nepal have had a fast trip since then. Their lives have changed immeasurably in ways one could not conceive of at the time. The experience has opened doors for them.

“Over the last 40 years the area has been transformed in a positive way. The community has rolled with the punches that have come with tourism. Trekkers bring money, but too many people create problems. Sherpas are dealing with them, and they are now leaders economically and socially in Nepal.

“At the hospital local doctors are now running a really good show, and there are good schools. When we first went there

“Being at Kunde had a profound effect on nearly everyone ...”

schools were more important than hospitals – and this is still the case. A Sherpa once said to Ed, ‘Please give us schools because our children have eyes, but they cannot see.’

“Thanks to Ed’s work the region is looking positive. He’s ensured well-directed inexpensive aid, backed up for a long time.”

That backup has come from almost 40 doctors over 40 years. Their story is being recorded in a book by Hillary’s biographer, Alexa Johnston, with photographs by Lynley Cook.

Cook and her husband David Murdoch graduated from Otago in 1985. They did their medical elective in Nepal, an area that had fascinated Murdoch for years.

“It was all very rugged,” says Cook. “We were seeking adventure and our medical degrees were a great opportunity to do something different. There was the appeal of the mountains – it’s an exquisitely beautiful country – and there’s something naturally appealing about all the Nepalese we have met.”

The experience was an awakening for the young graduates and they returned to run Kunde in 1991.

“It wasn’t just altruistic. We realised that we would get a lot of satisfaction out of being there. You do make a difference to individual lives and to the community, but most of the really important work had been done at the beginning. We were carrying on work that had already been started.

“But it had a huge impact on us. Being at Kunde had a profound effect on nearly everyone.

“You were learning all the time. You had to do everything yourselves. Just occasionally you could evacuate someone by air, but sometimes we suddenly got pressed into doing things we had never done before.

“For most people some of the most challenging things were obstetrics – difficult deliveries that required assistance. Childbearing practices are taken for granted in New Zealand, but you can’t do that in such remote areas.”

Cook found being able to offer family planning help was hugely rewarding. “Women would walk for days to get a five-year hormonal contraceptive. Having access to long-term contraception made a huge difference to them. Being able to limit the size of their families, they could invest more in the children they had.

“It was fascinating seeing how other societies reared their children. There’s not just one way to do it, it’s a cultural practice. Who is to say that we are right? It’s just our culture. We should be tolerant and considering of other ways of doing things.”

Cook’s time with the Sherpas changed her thinking about medicine.

“Cultures run deep. There are so many different ways of looking at the world. Kunde opened my eyes. Afterwards I made a career change and moved into public health. Clinical services are necessary, but what’s going to make the biggest difference



to people's health is upstream from that – it's what makes a population and communities healthy."

Cook has stayed in touch with the friends she made at Kunde, and has returned a couple of times.

"It's such a joy going back. They are more self-sufficient now. Kami Temba Sherpa, who was a health worker when we were there, has qualified as a doctor and has been running the hospital since 2003, with the help of Nepalese volunteers."

Funding is always a problem, but the Himalayan Trust still offers support.

"The country still has extreme poverty and inequality, but there are so many hopeful people," says Cook. "There's a hard road ahead. With the population increasing so rapidly, there are huge pressures. But wherever you go the people know full well the challenges."

Murdoch rose to one of the medical challenges he faced at Kunde. When he and Cook were there he was part-way through specialist training as a physician and microbiologist.

Apart from the general work of a remote GP, he developed an interest in infections. After Nepal he went to the United Kingdom to train in tropical medicine and infectious diseases. With further experience and study in the United States, he returned to a professorship at Christchurch School of Medicine and Health Sciences, and Christchurch Hospital.

His current research aims at reducing preventable or treatable diseases such as pneumonia, which kill a child every

30 seconds worldwide.

"Some of the places I've trained could not be more opposite to Kunde," says Murdoch, "but the work we are doing now has a direct application to places like that."

He has fond memories. "The best thing was being part of a small community which we got to know very well. We enjoyed the seasonal activities in the village, and clearly the environment. People save for half a lifetime to spend two weeks in the most amazing mountains in the world – but we lived there. It was very hard to come away at the end of our time."

The visiting volunteers have earned the gratitude of the Sherpa people, and of the man who started the whole project.

Hillary was unable to attend the reunion of the Kunde workers, but wrote: "You all contributed enormously to the hospitals that have gone from strength to strength. I would personally like to thank you for your unending support and for paving the way to having Sherpa doctors fulfilling our dream."

It's a dream shared by everyone who has worked there and, despite an assortment of successful careers since their time in Nepal, most volunteers would echo Hillary's thoughts: "I've enjoyed all my adventures enormously, but the thing I'd like to be remembered for are the schools and medical facilities that we built for our Sherpa friends in Nepal."

Nigel Zega

University of Otago Union



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Oiling the wheels of commercial success

In a global market increasingly driven by the need for innovative new products, Otago Innovation Ltd (OIL) guides Otago researchers through the commercialisation process, turning bright ideas into commercial realities.

YOU CAN FORGIVE HAMISH FINDLAY FOR LOOKING a bit jaded.

He's just returned from a whirlwind trip to San Francisco, Chicago and Frankfurt. And through those three different time zones, he's had one mission: meet with suppliers of components for a new gas-detecting laser machine developed by Otago's latest spin-off company, Photonic Innovations.

The brainchild of physics researcher Associate Professor Andrew Wilson, the technology has a wide range of applications that Findlay, a commercialisation manager at Otago Innovation Ltd (OIL), reckons is "really going to shake up the market" and could net the company hundreds of millions of dollars – US, that is.

"This is as exciting as it gets," he says. "After six months of running down blind alleys we finally cracked the market last year. We've had a lot of luck, but we've worked pretty hard for that luck."

Markets. Profits. Commercialisation. Spin-off companies. Venture capitalists. Why is the language of

There's a new law in town: patent or perish ...

business describing the research of a brilliant physicist better known for exploring the rarefied realm of ultra-cold atoms?

Don't academics just concern themselves with esoteric pursuits? Surely it's the self-made men and women of society who get on with the truly "useful" stuff?

Indeed, an early 20th-century president of one of America's top medical universities, Johns Hopkins, once said that the word "useful" ought to be banned from the work of true scientists: they were to pursue the presumably loftier goals of knowledge for the sake of knowledge and share it with the world. Such are the tenets of "open science", the values upon which most of the world's finest universities were founded.

To a large degree academics' careers still rise and fall on the number of scholarly articles published in academic journals, and on sharing research findings at conferences. The decree "publish or perish" remains a dominant force within universities, but there's a new law in town: *patent* or perish.

So what's changed? Why have technology transfer offices sprung up on campuses all over the world? And what do they do?

Stanford and Cambridge led the way back in the late '60s and early '70s, being the first major research-intensive universities to promote successfully the concept of a "science park" – where university innovation could be further developed by spin-off companies with practical know-how and investment funding.

These universities were reacting to outside influences, including growing expectations that, in exchange for public dollars, tertiary institutions would do more to ensure their work directly benefited the economy and society at large.

"In the last few decades, the themes that have driven business have also changed," explains Otago Innovation's chief executive Colin Dawson. Companies, confronted by the pressures of a highly-competitive global economy, looked increasingly to innovative products that would differentiate them in the marketplace.

And universities, because they are involved in intellectual pursuits, are seen as "generators of innovation" in ways that companies cannot always be. This is particularly the case in New Zealand, he says, because industry's investment in research and development has been historically poor compared to other nations.

Individual university researchers had in the past sought patents for their inventions from time to time, but on an ad-hoc basis. Such was the case of Otago's legendary dental dean, Sir John Walsh, who patented his invention of the high-speed hand drill in 1949 without the benefit of a university technology transfer office. That invention, developed further by others, is now widely-acknowledged as having revolutionised dental practice.

But it wasn't until the mid-1990s with the arrival of industry-minded engineer Dr Ian Smith that Otago began to catch up with the leading UK and North American institutions.

At the time, New Zealand universities were feeling the funding squeeze and seeking other sources of income. And, like their UK and American counterparts, they were also responding to the new clarion call: innovation for the nation. That call was most clearly expressed in the 1992 Government reforms of the research science sector, which introduced

The silent treatment ...

YOU HAVE A GREAT IDEA THAT COULD HELP SILENCE cancer-causing genes, your initial lab results are highly promising, but to go the next step you need a little expertise that can only come from one overseas company.

The trouble is, they aren't interested.

"It's like we're knocking on the door and no one is answering," says Professor Mike Eccles, head of Otago's ground-breaking Developmental Genetics Group in the Department of Pathology.

Eccles is experiencing the frustrating reality of trying to bring a highly-advanced technology to market from a small country, far away from the bio-tech expertise required to make things happen.

It's a situation that Otago Innovation commercialisation manager Dr Alexandra Tickle sympathises with. She's on the other end of the gene-silencing project, trying to get the

attention of the Californian company, Isis Pharmaceuticals, whose expertise is required.

"If we were in California, I could go to their company office, sit there until I saw the man I need to see about this, or find out where he drinks his coffee and say, 'hey, here's this great idea – what about it?' But what can you do when you're on the other side of the world?"

In fact, she's already made one trip to the United States to do just that, but Isis has hundreds of projects under consideration, and Otago's idea "just isn't their priority", she says.

But perhaps it should be, because Eccles's idea just might hold the key to overcoming a problem that has plagued gene-therapy techniques for the past 15 years.

Eccles and his team are focusing on PAX genes, genes that are "the good guys when you are a fetus", allowing cells to grow, but "the bad guys" later on when, for some reason, their

the idea of contestable public funding and created Crown Research Institutes with a strong commercial focus.

As the Deputy Vice-Chancellor, Research and Enterprise, Smith – now CEO of the Australian Nuclear Science and Technology Organisation in Sydney – aimed to encourage greater co-operation between academia and the commercial sector, without which “it is not possible to deal with inventors who, by virtue of their academic freedom, can publish without disclosure”.

While not the first in the game in New Zealand – Auckland had already set up a very large business venture, UniServices – Smith says Otago looked to the private sector for its model, ensuring that its commercial operations were clearly separated from its academic teaching and research pursuits.

Today, the University’s commitment to entrepreneurialism is manifested by the Centre for Innovation, the impressive glass and steel structure situated on the corner of Castle and St David’s Streets. Its “business incubator” area houses start-up companies such as BLIS Technologies, Pacific Edge Biotechnology Ltd and Iso-Trace NZ Ltd – three of the more well-known enterprises resulting from Otago innovations.

On the other side of the building is Otago Innovation Ltd, a small office with only six people: chief executive Dawson, three commercialisation managers, a financial officer and an office manager. This is one lean operation.

A wholly-owned subsidiary of the University, Otago Innovation Ltd is often confused with the similarly-named Innovate Otago, the University’s in-house research and enterprise office, located next door. Their roles are similar, but different. Research and enterprise feeds Otago Innovation promising intellectual property ideas gleaned from various University departments, while Otago Innovation oversees the

patenting and licensing process, and seeks private industry partnerships.

Once a month, the Otago Innovation team sits down with its R&E counterparts and ideas are assessed for commercial value – the more novel, the better. Those without impact are discarded, while the more promising ones are taken a step further.

In all, about half of the ideas that go through R&E and Otago Innovation make it through the initial assessment round. If found to be promising, a business strategy is drawn up considering a range of factors including market conditions, potential investors, competitors and the regulatory framework.

Laboratory “proof of concept” is then required to prove that the technology will, in fact, do what the researchers claim. Only about a quarter of innovations get past this stage. A decision must then be made about whether to sell the technology to industry, or to create a new spin-off company. If it’s the latter, Otago Innovation can provide seed money, allowing the fledgling enterprise to grow.

“But we also talk to investment partners,” says Findlay. “What are the big important things that people want to see to give investors more confidence that what they’re investing in is something worthwhile?”

And when you are potentially talking about millions of dollars to develop a new drug, and 10 to 15 years of lab and human trials before finally bringing it to market, confidence in that product is critical to investors.

That’s one of the reasons why Otago Innovation tries to get researchers in front of investors early on in the process, so that they can explain their innovation, and what it could do. But it’s also an opportunity for researchers to “learn the ropes themselves”, says Findlay.

off switch fails and cells can develop into cancerous tumours.

“If we could silence those genes, we could kill rogue cells causing the cancer, but hopefully leave the normal cells alone,” he explains. “That’s the \$64 million question.”

A multi-billion dollar question to be more precise; that’s the potential global market for the technology Eccles has patented.

His cancer gene therapy application builds on another great Otago idea – TPP (triphenyl phosphonium), originally invented by Professor Rob Smith of Chemistry and former Otago researcher Dr Mike Murphy as a therapy against neurodegenerative diseases such as Parkinson’s, and successfully developed by New Zealand company Antipodean Pharmaceuticals Ltd.

TPP acts like a truck, or a carrier, capable of delivering small molecules and synthetic nucleic acids called PNAs (peptide nucleic acid) directly through cell membranes to target genes within cells. PNA then silences, or blocks, the

message of those genes. Isis Pharmaceuticals just happens to hold the patent to PNA.

But PNA has a problem: it cannot penetrate cell membranes. TPP overcomes this, but Eccles is looking at delivering PNA not to the mitochondria (implicated in neurodegenerative diseases), but to specific cancer-causing genes.

So far, Eccles and his research team have had promising results and have plans for further in vivo (rats and mice) lab trials. Toxicity tests are underway and have so far shown no harmful effects to the body.

“This is highly advanced both in terms of the technology and the risk reduction,” explains Tickle. “We’re the truck experts and the cancer experts, but we don’t know enough about PNA to take it to the next step. We need a PNA expert to buddy up with.”

If only the company would open the door ...

Geography – New Zealand’s relative isolation from the world’s largest and most profitable markets – and a lack of existing biotech industry infrastructure “conspire” to make it “extra difficult” for Kiwi-based enterprises to succeed.

“It can take six months to a year to finalise a deal, sometimes longer, and that’s just on the commercial side of it – never mind the research behind it.”

Otago Innovation is also building up a global network of companies and private investors so that now companies come calling and “present us with their shopping list”, says commercialisation manager Dr Alexandra Tickle. “And if something pops up, then you already know who would be interested.”

But why the need to patent? Why can’t researchers just publish and hope an investor will pick it up?

Dawson explains that once research gets published in, say, a scientific journal, it loses its commercial value.

“Most technological and scientific discoveries require significant investment and risk to get them to market. To get them to that point, most investors have to ask the question,

‘What’s in it for the company?’”

A patent allows a corporation to have unique ownership rights of a technology and, hence, income in exchange for revealing that technology to society.

“Otherwise, no one would bother taking the risk to develop it – they’d have done all the heavy lifting and received none of the profit,” he says.

“Many well-meaning scientists want to benefit mankind, and it’s counter-intuitive that to benefit humanity it would involve secrecy, but that’s the way it is. Secrecy is absolutely paramount.”

However, once patented, a discovery can be discussed openly, be it at conferences or in written publications. Subsequent publication can even be desirable in commercial terms, he says, because it promotes and strengthens the patent.

“So yes, you *can* publish, but it’s a question of *when*.”

Patently obvious

“IF YOU EVER FIND A NOVEL BRAIN REGULATOR, PATENT it – or it will never get out of the laboratory.”

Those words of wisdom, spoken forcefully by a senior scientist to a young PhD student, were never forgotten.

That PhD student was Ian McLennan, now an associate professor in the University’s Department of Anatomy and Structural Biology and head of the Neuromuscular Research Group.

These days McLennan straddles two worlds, that of basic research science where he is a much-respected figure in his field of neurodegenerative disorders, and that of applied science where McLennan and his research team have recently patented – you guessed it – a novel regulator in the brain.

The regulator is the protein MIS. Until recently, its only role was thought to be in the development of the reproductive anatomy of male embryos. But McLennan, his colleagues Dr Kyoko Koishi and PhD student Pei-Yu Wang – who this year was a co-winner of one of the prestigious MacDiarmid awards for young scientists – discovered that adult motor neurons of both sexes produce MIS, indicating that it helps regulate these vital brain cells, without which we would not be able to move or breathe.

The discovery that mature neurons respond to MIS raises the possibility that it can be used as a drug to treat some neurological conditions that are not now curable.

OIL has now filed a number of patents in areas relating to the discovery and is currently looking for industry partners.

Mentoring McLennan through the patenting process, hiring patent attorneys and developing a business strategy has been commercialisation manager Hamish Findlay, without whose help McLennan says his team “wouldn’t have patented it, and we’d have lost various funding options.

“Frankly, the majority of us [research scientists] don’t have a clear idea of what you can patent. There have been some real losses to human society – lots of potentially great drugs are sitting in the library,” he says with a wry smile.

McLennan admits that he “almost mucked it up” himself when he naively agreed to a student giving a talk on the MIS discovery. He says that’s an area that the University “needs to get sorted” – about what can and cannot be said, and at what point in the process.

However, patenting, he’s since discovered, needn’t be a barrier to publishing or sharing research knowledge with colleagues. The key is to get it patented first.

Neither does there need to be a great divide between basic and applied science, between “research for research’s sake” and the requirements of companies investing millions of dollars into potentially helpful drugs or products. The two, he says, can be complementary. In fact, his team’s breakthrough

The first step in the journey is gaining a provisional patent. Its \$5,000 cost is covered by Otago Innovation and can be drafted and filed quickly – within two to four weeks. Filing a comprehensive international patent can cost up to \$50,000, and is also paid by Otago Innovation on behalf of the researcher.

Ultimately, the intellectual property of any innovation developed by an Otago researcher is owned by the University. But, unlike research scientists working within corporations (who give up any right to their ideas), University researchers are entitled to a third of any ensuing dividends. The remainder is split between Otago Innovation on behalf of the University (to recoup patenting and other costs) and the inventor's department.

Sounds good. But what happens when there are no profits, at least not in the short-term? Has the University's entrepreneurial experiment really paid off?

Some critics say no, and point to the continued multi-million dollar losses of Otago spin-off companies such as BLIS Technologies Ltd, a highly promising bio-tech enterprise that has not yet made good on expectations of commercial pay-back.

Dawson isn't fazed by the prospect of initial lacklustre results. Indeed, the majority of start-up companies fail, he says.

The issue for him is not so much that bio-tech companies are risky, but that New Zealanders in particular do not

understand "that this is part of creating a new industry and that it is not always possible to predict which companies will be winners".

Geography – New Zealand's relative isolation from the world's largest and most profitable markets – and a lack of existing biotech industry infrastructure "conspire", he says, to make it "extra difficult" for Kiwi-based enterprises to succeed.

But not impossible.

Associate Professor Ian McLennan, who's worked closely with Otago Innovation on his own patenting project [see story below], argues that the risk of failure and the fear of the unknown are no reason not to leap into the commercial world. For such are the foundation of future successes and are, in fact, an integral part of the scientific process itself.

"If you go back and look at Newton and Einstein," he says thoughtfully, "the majority of what they did has been found to be wrong. But we honour them for what they got right.

"Most of these commercial things *won't* work, but we're investing in a possibility. The money part is not the thing that's most important – it's the possibility of creating something useful."

Jill Rutherford

discovery, made while they were seeking a therapeutic application, has major implications for their basic research.

"We once thought that there was this big arrow that went straight from basic science to applied science, but it can actually go the other way around and work hand in hand. That's an important insight because a lot of us academics see ourselves as doing basic stuff and it's companies that do applied."

However, he thinks there can potentially be a clash of cultures between researchers and the men and women in business suits, and that's where people like Findlay are valuable "buffers" and "translators".

"Hamish brings a whole different range of skills and a way of thinking ... One of the things he's very good at is recognising the boundaries: his role is to think through the commercial side of it and who we can approach as a partner. And my job is to think through the science.

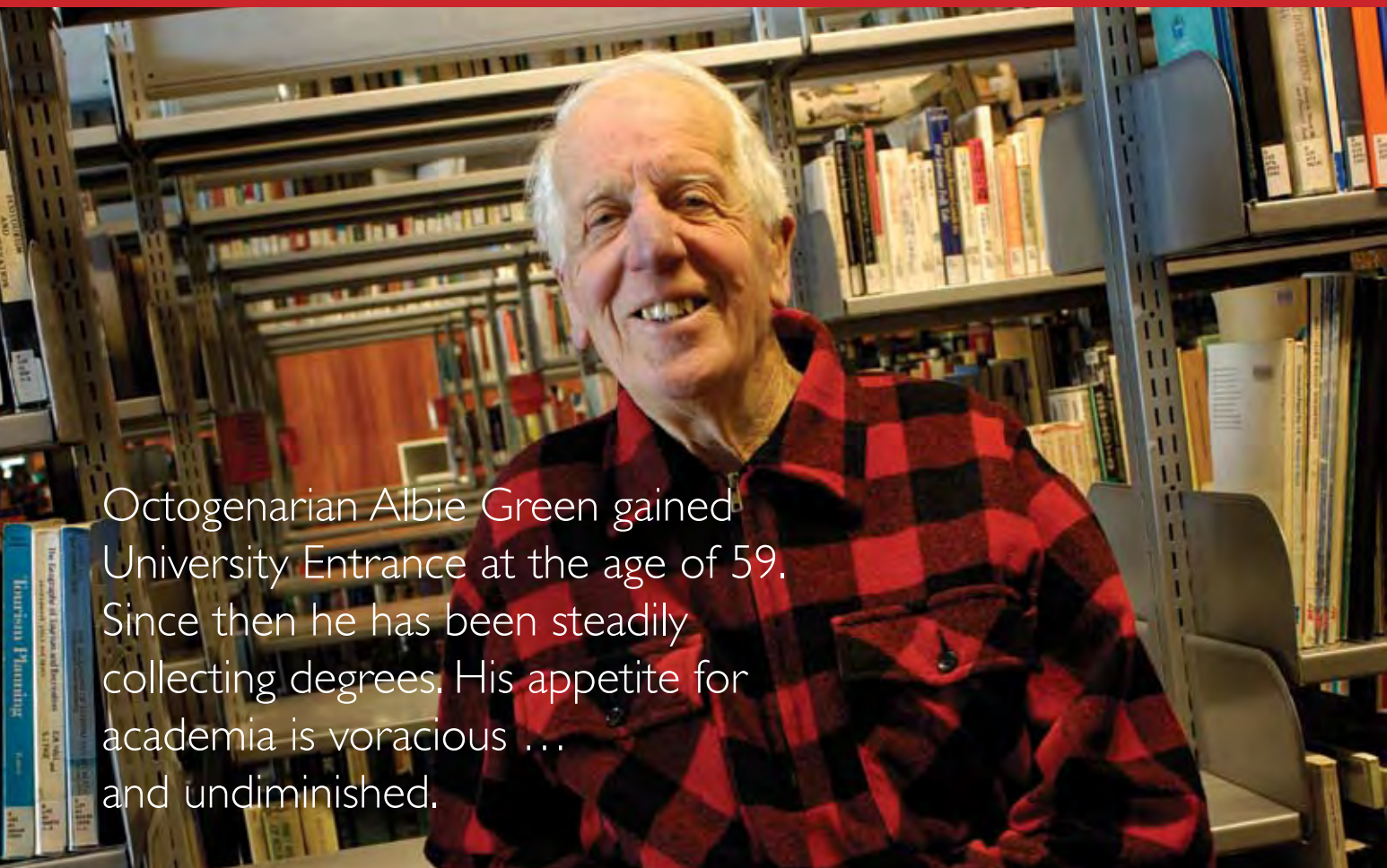
"He's also very good at explaining to me what I need to tell corporate investors, what they need to hear. Interacting with the business people is not just a one-way street – I'm also learning. I have to explain what I want and how to get it. It's just part of my training. It's actually quite fun."



Commercialisation manager Hamish Findlay (left) and Associate Professor Ian McLennan: one thinks through the commercial aspects and the other thinks through the science.

Photo: Alan Dove

Boomerang student



Octogenarian Albie Green gained University Entrance at the age of 59. Since then he has been steadily collecting degrees. His appetite for academia is voracious ... and undiminished.

Albie Green: "... it was a revelation to me. I met Shakespeare and all sorts of things – oh beautiful, y'know!"

AMERICAN ACTRESS BILLIE BURKE SAID, "AGE IS SOMETHING that doesn't matter, unless you are a cheese". When I tell this to Albert (Albie) Green, his face breaks into its large habitual smile and he chuckles with delight. Green is 80 and one of the University of Otago's most intellectually insatiable students.

Having gained University Entrance at the age of 59 (through night-classes at Otago Polytechnic) Green enrolled at the University in 1986 and has been slowly collecting degrees ever since: DipHum (1992), BA (1992), DipArts (1994), DipGrad (1996), DipGrad (1998), Master of International Studies (2000), Master of History (2003), DipGrad (2006). Retirement? Pah! Just try wrestling the University prospectus off him.

"I used to watch my older daughter and her friends discussing what they were going to enrol for at university and

I thought, 'Gosh, you're just like kids choosing lollies'. And now I can't wait for that new publication to come out to show what's on for the coming year."

Green left school in 1942 aged 15 and found a job with a shipping agency company. "I was office boy – but boy, you could hardly call that clerical work. What they got away with in those days. You had to do everything – lick the stamps, get the typist's cream buns and the boss's cigarettes – very demeaning!" But when the men returned from World War Two and reclaimed their old jobs, he had to move on.

"It was only right after all they'd done," he says. "But it set all the rest of us back. It meant that my generation sort of fell between the cracks – we weren't baby boomers and we weren't the great generation that went through the depression and the war."

“My joy is in learning for no visible profit”
– John Steinbeck.

Next up was a job with New Zealand National Airways, where he remained until 1984 (having amalgamated with Air New Zealand six years earlier, the company embarked on a big redundancy programme that robbed Green of his job). Soon thereafter he got a job at the Ministry of Works, where he remained for four years.

“You know, I could’ve stayed on there until I was 80. I was looking after a communications room – just on the microphone keeping contact with all the gangs that were out around the countryside. It was beautiful – I had a little room to myself with nothing much to do. And it was about this time that I started at polytech and I was able to do a heck of a lot of study at work. Beautiful, y’ know?”

When Green first enrolled at Otago Polytechnic, it wasn’t with the intention of pursuing an academic path. He only wanted to master typing so that he could tackle National Airways’ new computerised reservations system. So he took on a basic Pitmans typing class.

“I passed my test and thought, ‘Oh gee, I’m pretty hot on this’, so the next year I enrolled for School Certificate typing and there were about 30 girls all typing away madly – and when people are going fast, they make you want to go fast. I tried, but I made so many mistakes and used to come out of there drained. So I thought rather than lose my money, I’d switch over to School Certificate English – and it was a revelation to me. I met Shakespeare and all sorts of things – oh beautiful, y’know!”

And with this, a colossal appetite for academic study was unleashed.

After gaining University Entrance (while still working full-time and with a young family in tow) Green was finally poised before a whole new range of academic adventures. He enrolled for the University’s extra-curricula Certificate of Humanities – a class that linked students from around Otago, Cromwell, Alexandra, Oamaru and Balclutha.

“It was terrific – and we were so darn brilliant that the University made it a diploma course. They were all heck of a nice people and about the same age as me – a lot of fun. It was university study de luxe I reckon. You had all the best lecturers and all our notes were in bound volumes.”

So did all this study stretch his mind from its habitual corners?

“Oh gosh yes – absolutely. I was brought up with the ‘good Governor Grey attitude’ – that the British Empire was of benefit to the world etc. I’m glad my father isn’t alive or we’d be at each other!”

Green relishes having his mind nudged by a broad range of academic voices. “You find you’ve got to look at things

you wouldn’t normally look at, and then suddenly you realise you’ve stumbled on a treasure of some sort.”

All those history courses have fuelled a travel hunger, too. He had to resist enrolling for more courses in the latter part of this year only because it would clash with his plan to sample the delights of Czechoslovakia, Austria and Hungary. Last year it was Scandinavia, East Russia, Poland and Northern Germany.

“I wanted to see these areas because of my history background. I’m mainly interested in the geography of Europe – to see where all these armies went. But I was also enough of a romantic to stand in front of the Winter Palace in St Petersburg and think, ‘Oh, here I am, look at me.’”

Green’s late appetite for university study has caused some raised eyebrows amongst his peers. “The Lions’ Club guys say, ‘You’re down there with all those young girls – what are you up to, Albie?’ Others look at me puzzled and say, ‘Oh well, I suppose it keeps your brain active’. Most people can’t conceive of doing it just for the joy of it – they think it has to have a use. Otherwise they think there’s some hidden motivation – like all those young girls!”

One of his favourite quotes is from John Steinbeck’s novel *The Winter of Our Discontent*, “My joy is in learning for no visible profit”.

And he’s far too smitten with the joy of study to give it away just yet. The only thing that will temper his voracious enrolment habits is the dwindling of his bank account (of his latest bout of university spending, he says, “I got the bill and wow – I nearly fainted”). But enrolled or not, his mind is rarely parked in neutral. He’s currently wearing out the carpet down at the Dunedin City Council archives, extending the research he did on the Town Belt for his MA in history. He also works part-time as a guide at Olveston.

Professor Tom Brooking has been one of Green’s lecturers and supervisors for several years now and says, “He would have to be the most enthusiastic student I’ve ever taught and a tiger for punishment – coming back for more and more papers until he ran out of everything in history.

“New staff provided new papers, but he even outran those. He always related well to younger students and has been a model ‘adult’ (or is that ‘mature?’) student. He always delivered on time and expected the same from his teachers/supervisors. All in all a delight and great advertisement for the university of life!”

The world needs more Albie Greens. His spirit is large and lavish. He’s pure tonic. Oh beautiful, y’know?

Claire Finlayson



Professor Anne Smith:
"There is the evidence that physical
punishment is a public health risk ..."

Photo: Todd@Lighthaus

OPINION

The smacking debate ...

THE DECISION THE NEW ZEALAND PARLIAMENT WILL TAKE THIS YEAR ABOUT whether or not to repeal Section 59 of the Crimes Act will have far-reaching consequences for children.

The Children's Issues Centre has an important role to play in advocating for repeal, since one of our roles is to advocate for children, based on the best evidence available.

Within a climate of increasing evidence that violence towards children is rampant in New Zealand, it is particularly important to move us into the 21st century to stand alongside other civilised countries, including most of the Scandinavian countries, Germany, Romania, Israel (14 in all), which have changed their law to prevent parents physically punishing their children. Removing Section 59 does not ban smacking, it simply removes an excuse (or defence) in law for parents who are taken to court for assaulting their children. Parents who commit serious acts of violence towards children are currently regularly acquitted on the basis of Section 59.

There is the evidence that physical punishment is a public health risk because it is associated with increased aggression and anti-social behaviour; poorer academic achievement; poorer quality parent-child relationships; adverse mental health outcomes (depression, anxiety, low self-esteem); and diminished moral internalisation (children's internalisation of parental values and ability to control their own behaviour). Other methods of parental discipline have been shown to be much more effective in bringing about favourable outcomes for children, without the negative side effects. Just as with other risks to children's health (smoking, cot death), there is a responsibility on the part of the Government not to encourage practices that are risky for children.

There needs to be a change in attitudes towards family violence in New Zealand. Just as it used to be acceptable for physical violence to be used by husbands against wives, violence by parents against children currently remains sanctioned as part of our culture. Legislative change is only one way of signalling to the community that this is not acceptable. It is one of a whole set of policies which can help to reduce family violence, but an important symbolic one. Most of the countries which have banned the use of physical punishment by law did not initially have public opinion on their side. However, changing the law will help change opinion in the long term, but it must be accompanied by educational and family support measures.

The most common argument used by people who do not wish to repeal Section 59, is that they are all right and they were smacked. But there are many practices which today's adults experienced as children, which we now know are risky. We have subsequently changed our policies and the information we provide for parents accordingly. Infants were put to sleep on their tummies, infants and children were not restrained (with seat belts or car seats) in cars, and they did not wear helmets to ride bicycles. The fact that many of us survived these risks does not mean we should expose the next generation of children to them.

It is important to repeal Section 59 to give children the same right to protection as adults (including prisoners and members of the Armed Forces) and animals have in New Zealand.

Professor Anne B Smith
Children's Issues Centre

Weaving magic

Kahutoi Te Kanawa: "I don't feel like I've yet mastered my art ... I'm capable of it, but there's lots more room for improvement."

Otago lecturer Kahutoi Te Kanawa comes from a long line of distinguished Māori weavers. With her works now displayed both nationally and internationally, she is passing on her traditional skills to yet another generation.

WEAVING RUNS IN THE BLOOD OF KAHUTOI TE KANAWA, an internationally-recognised traditional Māori weaver and senior lecturer at Otago's Te Tumu, the School of Māori, Pacific and Indigenous Studies.

As a child growing up in a small rural King Country town, she was surrounded by weaving as far back as she can remember. Her mother, Diggeress Te Kanawa, and grandmother, Dame Dr Rangimarie Hetet, were both distinguished weavers who are credited with preserving many of the traditions of the art form.

Weaving goes back at least five generations in Te Kanawa's *whakapapa* (genealogy) through *iwi* (tribal) affiliations to Ngati Maniapoto, Waikato, Tuwharetoa and Rarua.

"I still hold a *patu muka* (an ancient stone tool used for pounding *harakeke*/flax) that has been passed down through five generations," she says. "I carry it around in my car with me. It's like having my *tupuna* (ancestors) look after me. It's with me all the time."

When her mother, now 86, presented this precious family *taonga* (treasure) to her, it was in a sense a graduation present. And finishing her first *korowai* (cloak) after four years of intense work was like completing a degree. In fact, her "graduation" as a weaver was the culmination of 30 years of fascination and observation of the skills and techniques of the craft.

"I remember my first attempt at weaving was when I was about seven," Te Kanawa recalls. It was "abysmal", she says, but it was a comment from her father that made her determined to continue. He thought her green flax *kete* (bag) was only good enough to hold the clothes pegs, and that became a challenge. Growing up with weaving of the quality produced by her mother and grandmother, "I knew instantly, even as a child, I had a long way to go before I could reach a standard that was good enough to call weaving".

Even today, with her works displayed nationally and in prestigious collections all over the world, she is still her own harshest critic.

"I don't feel like I've yet mastered my art," she says. "I'm capable of it, but there's lots more room for improvement."

One example of her weaving was prominently displayed at Wellington Airport and frequently attracted praise from her friends, but every time she walked past, "I used to cringe because it wasn't my best piece".

Pressed on the subject, she admits there was one piece that she was satisfied with. It was a *kete muka* (dressed flax fibre bag) which she gave to a fellow weaver, one of her closest friends.

"That was one piece I felt was ... okay," she hesitates. "It was exceptional and, because I felt that way about it and about

her, I gave it to her. I think she was quite taken aback. My first cloak was an achievement. I was really happy with that, but there was still lots of room for improvement."

Both pieces were displayed in the *Te Aho Mutunga Kore* (Eternal Thread) exhibition which Te Kanawa co-curated. It toured New Zealand in 2004 and 2005, and attracted international attention and huge crowds at several venues in the United States. In San Francisco more than 26,000 people visited this exhibition in 10 days.

Te Kanawa was commissioned to produce a *piupiu* (flax skirt) and *kete muka* for the British Museum, and a *kete whakairo* (patterned basket) and a *korowai kereru* (woven cloak adorned with feathers from the native wood pigeon) for the Royal Scottish Museum. She has recently returned from a trip to the United Kingdom, where she was working with anthropologists, museum curators and members of the United Kingdom Weavers' Guild at Cambridge University.

She is a member of the National Māori Weavers' Association and looks forward to the biannual *hui* (gathering) as a highlight of the social calendar.

"It's full-on weaving, lots of laughter, talking, singing, eating ... lots of camaraderie that happens between weavers. We harvest together, we prepare material together and we share the resources together. It's not an individual thing.

"We all have our strengths in different fields. As a *ropu* (group), we still hold on to the combinations of different traditions and customs that have been passed down through the generations. What makes Māori weaving unique is the *muka*, the fibre, because you can't get *harakeke* (flax) naturally anywhere else in the world.

"My strength is in *muka korowai* (cloak weaving) more than *kete* (baskets) and *whariki* (mats). My mum and grandmother had been renowned for their weaving, but more so for keeping the customary practices of cloak weaving alive."

Te Kanawa was one of the first weavers in the country to receive the Toi Iho Māori trademark, a certificate of authenticity, quality and a guarantee that buyers of her artworks are getting the genuine article.

While her weaving skills have taken her around the world, teaching is now a full-time career and a commitment to pass on the traditions she learnt from her forebears. While the majority of her students have been adult and Māori, she has taught weaving to people from a diverse range of cultural backgrounds.

A big part of her role as a teacher is to incorporate traditional values of Māori *tikanga* (culture) and protocols she grew up with into a Western teaching style. Students learn about environmentally friendly ways of harvesting, processing and working with materials.





Photo: Alan Dove

“It’s always been that way,” she says. “The word *‘tapu’* (sacred) is used a lot but in the wrong context. It’s really about common sense.”

Another tradition is for learners to give away the first item they make. Sometimes students are reluctant to part with their first work.

“They want to keep it,” Te Kanawa says. “I try to tell them the importance [of giving it away]. The first piece is a test of patience, tolerance, and the kindness in your heart to be able to let go a piece like that and continue on. It encourages you to do another work. When you give something away, it’s acknowledging the support others have given you, especially the receiver of your first piece of weaving.”

“A lot of Pākehā people that I’ve taught, they really enjoy learning about these values,” she says.

As a teacher she has been closely involved in developing weaving programmes for educational institutions at certificate and diploma levels, and now in the foundation year of the

Bachelor of Traditional Māori Arts degree at Te Tumu, which offers a combination of traditional language, performance and the visual arts.

Te Kanawa welcomes the cultural revival of Māori language, arts and our unique identity as New Zealanders. In the past many New Zealanders did not appreciate what was in their own backyard, but times are changing, she says.

“The younger generation are more aware of our history, are more aware of the cultural dynamics and they’re becoming more politically aware of the absolute need for a cultural identity.”

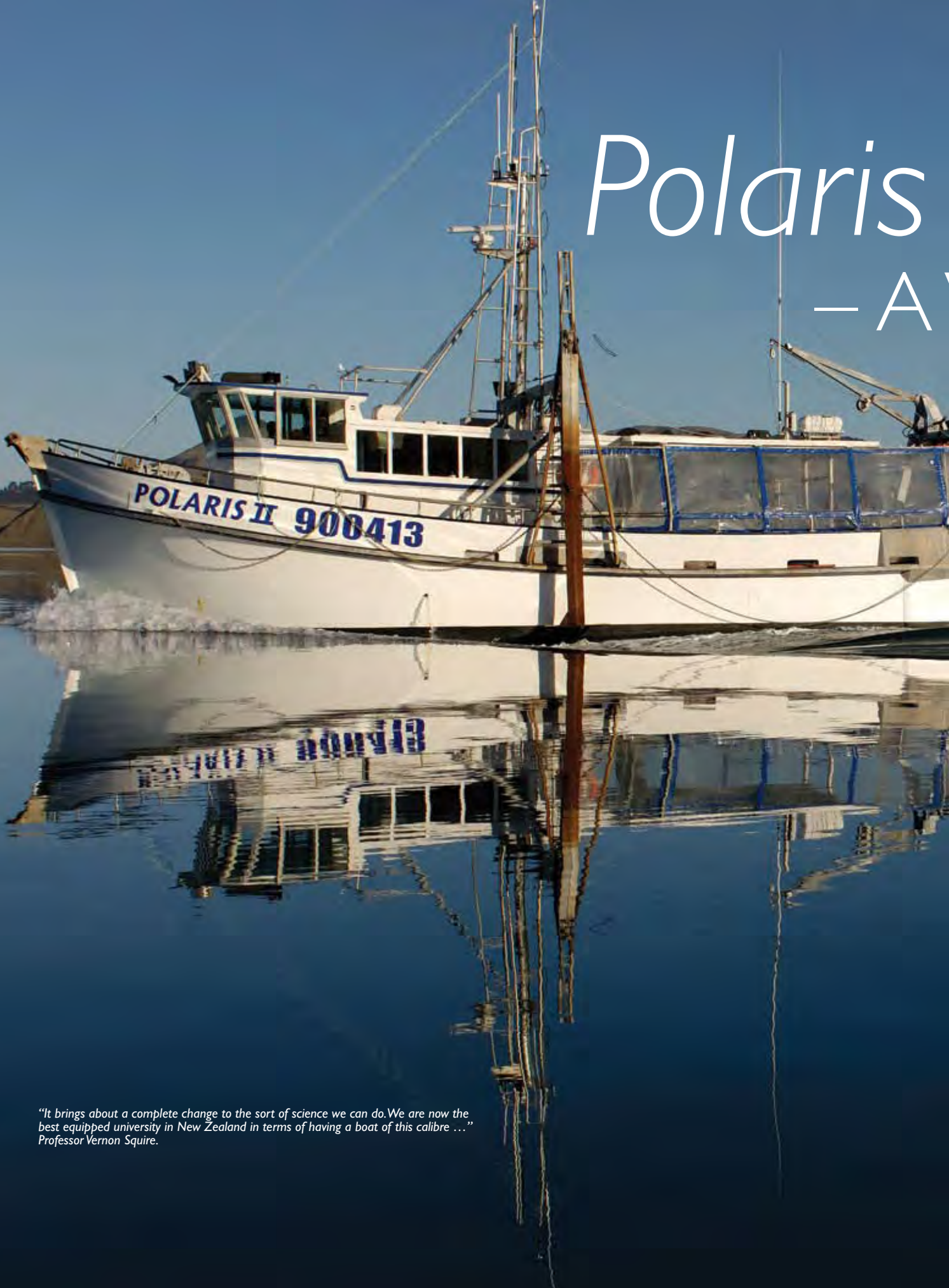
She believes the weaving traditions she learnt as a child are alive and well, through the younger generation learning the skills, and through national and international interest in the culture.

“It’s getting stronger and stronger every day,” she says. “I never, ever thought I’d be teaching weaving in Otago. I never dreamed in my lifetime it would get this big.”

Rob Tipa

Polaris

— A



"It brings about a complete change to the sort of science we can do. We are now the best equipped university in New Zealand in terms of having a boat of this calibre ..."
Professor Vernon Squire.

// VESSEL FOR THE FUTURE



The University of Otago's new research vessel, *Polaris II*, will open up critical new possibilities in ocean sciences and cement Otago's position at the leading edge of the field.

TO STUDENTS OF ANTARCTICA THE NAME *ENDURANCE* IS well known. Fewer people realise that Sir Ernest Shackleton's ship on his celebrated 1914 expedition to the ice was originally named the *Polaris*.

So the University of Otago's newly acquired research vessel (RV) *Polaris II*, a modern wooden-hulled boat built with as much care and attention to design and detail as was the *Endurance*, has an illustrious antecedent.

The connection underpins Otago's historically strong links with the frozen continent. *Polaris II* will help bridge the distance between Antarctica and New Zealand in scientific terms, just as Shackleton and *Endurance* did with exploration.

Pro-Vice-Chancellor of Sciences Professor Vernon Squire explains that the decision to purchase a new vessel goes back several years. While the University has had access to a vessel

in the shape of Marine Science's RV *Munida*, its age and size had begun to impose constraints on the kinds of science that could be conducted: the numbers of students that could be accommodated on any trip, the sea-going range of the vessel, the capacity to operate in a wider spectrum of weather conditions.

The \$660,000 purchase of RV *Polaris*, he explains, has been made possible through donations from the J&L Callis Trust and two private donors through the University's Leading Thinkers' Initiative which attracts matching funds from the Government. Outfitting the former fishing boat with state-of-the-art scientific equipment is estimated to cost a further \$840,000, taking the total to around \$1.5 million.

While remaining a cornerstone of the Department of Marine Science, RV *Polaris* will cater to a growing appetite

and need for aspects of ocean sciences across a range of departments.

“It brings about a complete change to the sort of science we can do. We are now the best equipped university in New Zealand in terms of having a boat of this calibre ... *Polaris* adds to the complement of tools we can use,” Squire says. And the timing is good. “Ocean Survey 20/20 is a programme of intensive ocean study involving Crown Research Institutes, the Navy, the universities and other groups from around New Zealand interested in the ocean sciences,” he explains. “*Polaris* can be very much part of that ...”

Ocean Survey 20/20 will be the largest hydrographic mapping project New Zealand has yet undertaken and, most likely, will generate the need for inshore survey data beyond the capability of Navy and NIWA-operated vessels.

Squire’s enthusiasm for the new vessel is echoed by Associate Professor Mike Barker, head of the University’s Department of Marine Science.

“What *Polaris* will bring is a more capable and a more stable vessel, able to operate inside and outside the economic exclusion zone.

“It can take more students at once which means bigger classes, and it can dredge deeper and hold more. It has a wonderful functionality and, despite being considerably larger than the *Munida*, it is possibly more economical to run.”

Not only will the new vessel be a jewel in the Marine Science crown, but the costs of equipping it with the latest

state-of-the-art equipment and of maintaining it will be shared across the division.

Barker welcomes the active involvement of other departments. “The *Munida* has always been used by a range of departments and it has served the University well. But the *Polaris* will enhance our reputation as a New Zealand university department with blue water oceanographic capabilities.”

Those capabilities will be put to work across a spectrum of sciences at both undergraduate course level, and in postgraduate and staff research. At the undergraduate level, the Department of Geology and the School of Surveying will add to demand on *Polaris* with respective ocean sciences courses in marine geology and geophysics, and hydrographic and nautical surveying.

At the research level, the applications are many and varied, and will extend beyond the University itself. For example, since 1996 the Department of Chemistry and NIWA have maintained a regular “marine chemistry” transect across the Otago shelf, using RV *Munida*. The new vessel will help ensure the continuity of that work as well as the success and feasibility of other projects.

Professor Keith Hunter, head of the Department of Chemistry, explains: “One of the ongoing projects is to look at carbon dioxide concentration in seawater. So we do a transect four to six times a year.”

One of the purposes of this research is to measure over time the effect of carbon dioxide absorption on the pH of the water, and the effect that this may have on organisms – calcifiers

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– such as plankton and coral that may be pH sensitive.

The versatile *Polaris* may also lend itself to other NIWA-related projects. The new vessel, he says, will be useful in measuring trace element concentrations in seawater, which again can have implications for marine plant life.

Equally, RV *Polaris* will be critical to ongoing work in marine biology and ecology: the capability to sample deeper water habitats and deploy more sophisticated benthic imaging equipment. In marine geophysics, oceanography and paleoceanography, the *Polaris* will provide an essential tool in the ongoing and critical work to understand the interactions between seafloor, oceans and atmosphere. Of particular interest are the interactions that relate to the circum-global subtropical front that converges with the Southland current in the New Zealand region.

Associate Dean of Research (Sciences) Associate Professor Gary Wilson has also had a hand in the acquisition. This pan-sciences initiative is another feather in the cap for the geologist who recently received a Sir Peter Blake Emerging Leader Award.

He has no doubt about the advantages the new vessel confers. “The ocean is a regulator of climate systems and the climate is changing,” he says. “This floating research platform gives us an opportunity to study what is driving that change and how that is linked to global drivers.

“Otago is a great place to do this from because of our natural position – we are at the gateway to the Southern Ocean.”

Because of the currents deriving from Antarctica, the southeast of the South Island is unique in oceanographic terms, he explains.

“We now have the ability to get out and investigate this and understand the global position and impact on New Zealand. It’s exciting. We just haven’t had this sort of platform before ...”

As a divisional resource, the new vessel will contribute across the various ocean sciences to a holistic picture of environmental processes and patterns. Understanding, observing, measuring these patterns, abetted by the RV *Polaris*, will ensure that the University of Otago remains at the forefront of the field in New Zealand, and the southern hemisphere.

Sir Ernest Shackleton would have approved.

Simon Cunliffe



Photo: Alan Dove

The new vessel's blue water oceanographic capabilities will be put to work across a spectrum of sciences at both undergraduate course level, and in postgraduate and staff research.

COLLEGE LIFE



Photos supplied

Carrington College: Those social radicals – in 1948, Carrington became Australasia's first mixed-gender residential college.



Arana College: When in Rome ... Arana students are in time-honoured party attire.



Hayward College: Previously a maternity hospital, Hayward's rooms were designed as wards, and are now boasted of as the largest college rooms available.



City College: A different model of residential accommodation, City College is divided into five- and six-bedroom flats, and is open to University, Polytechnic and College of Education students.

The University of Otago's Residential Colleges accommodate nearly 3,000 students each year and are regarded as one of the most important features of campus life.

WHAT'S THE PROPER NAME FOR A HOME AWAY FROM home? Parent-teacher-mentor-coaches all rolled into one? Older sibling-type figures that are more like cool, mature friends?

What do you call a place where your bedroom is down the corridor from a library and you might have a tutorial before breakfast? Where you can head to a party with 50 of your closest mates? Where people forge some of their best-ever friendships that last the rest of their lives?

This year, the University of Otago decided that the label Hall of Residence did not quite capture the essence of this accommodation chosen by most first-year students at Otago. As from June, six Halls of Residence joined the University's six Residential Colleges, and adopted the title of "college". They, along with Toroa International House, comprise the University's main offerings for communal accommodation.

Vice-Chancellor Professor David Skegg explains the change, pointing out that Otago's colleges entail something quite distinct from hostels and halls at other universities, describing them as "academic communities that offer far more than just bed and board".

"We regard our colleges as one of the most important features of campus life at Otago," Skegg says. Hundreds of thousands of graduates are likely to agree. For around 54 per cent of first-year students (based on 2005 and 2006 figures), college life is their introduction to living away from home.

Unlike other universities' accommodation, all Otago colleges are either owned by the University or by affiliated charitable organisations, and collectively offer some 2,900 beds per year. Director of Accommodation Services James Lindsay puts the scale of the operation in some sort of perspective: a total of over 500 staff and 4,000 door handles. There are



Selwyn College: What defines those traditions that will stand the test of time? The Leith Run sees students run a portion of the Water of Leith, while being pelted with eggs and flour bombs thrown by past residents.



St Margaret's College: In 1911, St Margaret's was opened as a residential college for women. Pictured (from left) are Joan Rushton, Barbara Brown and Grace Anderson, from 1955. Today, the college is open to both male and female students.



Cumberland College: College life at Otago is described as being about more than room and board, but an integrated academic experience. Tutorial sessions reflect the emphasis placed on academic and pastoral support.

“There’s a lot more awareness about the kind of environment we are providing for students. And it’s much safer.”

60,900 meals served each week; 58 tonnes of chicken, being 36,296 individual birds, are cooked each year.

That’s before one starts quantifying how much porridge is produced for purposes of being wrestled in, or imagining what it’s like feeding a room full of people on “movie-theme night”, dressed as characters from the *Rocky Horror Picture Show*.

“It takes a very special kind of person to manage 500 teenagers all flexing their muscles and experiencing their first taste of independence,” says Lindsay. “Wardens are often the unsung heroes of the whole operation. It’s more than a job, it’s a vocation.”

The qualities you need, says Lindsay, are “a thick skin, good judgment and a sense of humour”.

Lindsay comments that the job has become more complex over the years. The warden is the academic leader. They provide the parental overview, plus they’re in charge of budgets, compliance, health and safety, and employment.

Dr Peter Norris has been Warden of St Margaret’s College for 18 years, and attests to the changed nature of the job. Has all this increased regulation impacted on students’ opportunities to grow and have adventures? “If anything, I think they have more fun now,” says Norris. “There’s a lot more awareness about the kind of environment we are providing for students. And it’s much safer.”

Students and wardens agree that their relationships with one another are generally “fabulous”. Norris tells of the ex-students who have invited him to their weddings, sometimes to officiate. Students talk of the support they’ve been given upon suffering bereavements or struggling in class.

While students and staff may not pretend to approximate families, a phrase Lindsay and college wardens are fond of is “building communities”. This is the process by which applications are considered, and students are selected and distributed among the colleges. An integral document is the confidential testimonial written by a student’s high-school principal.

In this sense, it’s not an especially transparent or egalitarian process. But that’s the difference “between building a community and ticking boxes”, Lindsay says. Other universities have specified lists of criteria, he explains, whereby so long as students meet the prescribed requirements, they are assigned a room. “But what happens is students simply angle their applications to reflect the list. We would rather gain a fuller picture of what each applicant is like and then think, ‘How will they contribute to the overall community of the college?’ It is a judgment call, and some of it is based on ‘feel’.

“Of course,” says Lindsay, “some students turn out to be quite different from what their testimonials might have



Aquinas College: This college, once dedicated to the accommodation of male Catholic students, has now turned its former chapel into a gym.



Salmond College: College pride – Salmond students prepare to cheer on their side at an inter-hall competition.



University College: All shiny and new – Unicol opened in 1969 as part of the University’s centenary celebrations. Unicol is the University’s largest residential complex, with more than 500 individual rooms.

suggested. But part of coming to Otago is precisely that it gives some people the chance to reinvent themselves, and to develop their personalities in all sorts of interesting ways.”

Community-building decisions are made to promote academic achievement and to ensure a balance of backgrounds and interests. And through this process, each college has the chance to nurture its own distinct character – based on such variables as the college’s size, location, history and traditions, emphasis placed on communal activities and any specific extra-curricular sporting or cultural strengths.

Some of these characteristics have long and curiously stubborn heritages. Arana College was originally largely funded through the Colombo Scheme, an initiative dedicated to educating people from poorer Commonwealth countries. It continues to celebrate its multiculturalism and attract international students.

Other colleges have been able to use history to their advantage in other ways: Hayward College was formerly Queen Mary Maternity Hospital and now boasts the largest rooms of any college.

And then there’s the “boys’ own” prankster humour that has survived the past century among the older residences. Knox – founded in 1909 – achieved a certain notoriety for events such as faking a flying saucer landing in 1955 (gaining international attention), and greeting ex-pig-farmer-turned-Governor-General Lord Bledisloe, who came to visit in 1934, with a penful of pigs.

Selwyn – Otago’s oldest college, dating back to 1893 – continues a tradition known as the Leith Run. Since 1935, residents have made an annual run along the river, dressed in

football gear (and originally carrying flaming torches), while ex-residents pelt them with flour and eggs.

For these earliest colleges, pranksterism and rivalry became the perfect bed-partners – consider, for example, Operation Berlin, the Knox students’ attempt to brick up Selwyn’s front entrance.

But for all the college identity, fun and games, speak to any college student, and the message is the same: it’s about the friends.

“I will be giving a speech at my old high school soon,” says Luke from Unicol, “and my message is going to be, ‘Don’t even think about going anywhere else. Don’t worry about all your fears about not knowing people or whatever. Get over them, really.’”

Students talk about the support networks that develop, and the strong sense of everyone looking out for one another. They share their packages of baking, help one another through homesickness and celebrate each other’s successes.

Inevitably though, the very things that make colleges so appealing are the qualities that may give them their limited shelf life. After one year in a college most students move into nearby flats to see out their university years.

The urge to claim some self-determinism when it comes to meals, for example, can be a powerful force: “I’ve been having a hankering for lasagne,” says one student. “I’m looking forward to choosing my own menu!”

And, when they make the next step, and enter flatting life, they do so with students with no secrets when it comes to levels of tidiness and personal hygiene.

Nicola Mutch



Toroa International House: International students immerse themselves fully in Otago passion.



Knox College: Governor-General Lord Bledisloe and Lady Bledisloe are greeted on their visit to Knox by a pen of pigs – one of the college’s many famed pranks.



Studholme College: Ready-made friends with common interests. Studholme’s music room includes a baby grand piano and a drum kit.

Ancient origins for modern birds



Photo: Alan Dove

PhD student Tatsuro Ando and Associate Professor Ewan Fordyce: The ancient penguin genus *Waimanu* lived in the seas off New Zealand more than 60 million years ago.

FOSSIL PENGUIN RESEARCH BY UNIVERSITY OF OTAGO

paleontologists is seriously challenging theories of bird evolution, suggesting that some “modern” bird groups lived with the dinosaurs.

By combining fossil study and DNA analysis, Otago researchers and collaborators have, over the past 20 years, pieced together a profile of ancient penguins found at the Waipara River, Canterbury, since the 1980s. They are the oldest such fossils reported in the world and represent a newly-named penguin genus *Waimanu*.

Associate Professor Ewan Fordyce and PhD student Tatsuro Ando (Geology) believe the birds were about the size of yellow-eyed penguins and looked a bit like shags. It was unlikely they could fly in the air, but used their “wings” to swim underwater.

Microfossils showed these birds lived in the shallow seas off eastern New Zealand between 60 and 62 million years ago – not long after the extinction of the dinosaurs. Dates from the fossil study were then used to calibrate genetic patterns in related living birds, establishing a new time frame for when groups of modern birds developed.

“It became clear that as these early penguins lived not long after the extinction of dinosaurs then other more distantly related bird groups must have been established even earlier,” Fordyce explains.

“In contrast to recent American theories, our study, which is being remarkably well received, suggests many living groups of birds date well back in Cretaceous times when the dinosaurs were thriving.”

This research involved collaboration between the Universities of Otago, Massey and Lund, and the Institute of Geological and Nuclear Sciences.

Making memories at the cellular level



Photo: Todd@Lighthaus

Dr John Reynolds: His research may eventually lead to clinical applications for patients with Parkinson’s disease.

HOW DO WE LEARN NEW SKILLS, SUCH AS DRIVING, AND RETAIN them so we can tap into them next time we need them?

Dr John Reynolds (Anatomy and Structural Biology) has secured a three-year, \$610,000 Marsden grant to work with British-based collaborator Peter Redgrave to study how visual information is turned into a memory at the cellular level.

Reynolds has mastered a technique for measuring activity in single cells in the striatum, part of the brain affected by Parkinson’s disease.

Earlier research showed certain rare cells become synchronised when learning a task. Their focus has now shifted to a more common kind of cell in the striatum, called spiny cells.

“These cells are involved in learning to associate certain circumstances, or environmental cues, with an action that we do to get a specific outcome,” says Reynolds.

They are particularly interested in how visual information becomes associated with specific actions; for example, negotiating a turn when you are learning to drive.

“Once you get it right, we think you get a rush of dopamine, the reward chemical, into the striatum which says, ‘hey you did the correct movement sequence to get round this particular task,’” he says.

“The beauty of this whole experiment, and why it will be groundbreaking, is that we can actually look at the effect of a physiological stimulus and how it is involved in memory formation right down to the cellular level.”

Reynolds says there may eventually be clinical applications when dealing with movement disorders in Parkinson’s patients.

Critical thinking a critical skill



Photo: Bill Nichol

Dr Susan Sandretto: Critical literacy encourages teachers and students to question all verbal and visual media texts ... to develop a deeper understanding at multiple levels.

CHILDREN TODAY ARE BOMBARDED WITH AN OVERWHELMING volume of information, more than any generation before them, through television, radio, the internet and print media.

The challenge for them is to sort out what is relevant to their lives and what is not – a critical thinking skill.

Dr Susan Sandretto (Faculty of Education) is working with four Dunedin primary schools on a collaborative research project to introduce critical literacy strategies into guided reading programmes and wider subject areas. A secondary school will join the project in 2007.

Critical literacy encourages teachers and students to question all verbal and visual media texts – texts that are often taken for granted – to question who wrote them, for what purpose, how they are represented and what they mean for them, helping them to develop a deeper understanding at multiple levels.

“We know knowledge in a lot of areas quickly becomes obsolete these days, so it’s becoming less fruitful for teachers to teach facts, particularly in areas like science, because those facts can change overnight,” Sandretto says.

“But what they will find useful are critical-thinking skills which can be developed through critical literacy. These are lifelong skills that are ultimately transferable to any context, and which have not been regularly taught in New Zealand schools in the past.”

While the study is small, running record data show that children involved in the research increased their reading accuracy and their reading age, and many increased their reading comprehension.

The birth of the body politic



Photo: Alan Dove

Dr Takashi Shogimen: “You only need to look at concepts such as the ‘circulation’ of money ... to realise western political rhetoric is full of organic metaphors and medical analogies.”

MEDICAL METAPHORS SUCH AS “THE BODY POLITIC” HAVE LONG been a part of political thought, but little effort has been put into finding out how they were conceived.

“Medicine was long thought to be irrelevant to the development of political thought, but many early thinkers had training in medicine or at least a serious interest in medicine,” says Dr Takashi Shogimen (History), who is embarking on a Marsden Fund project to examine the links between the history of medicine and the history of political thought.

Conventional views of western political thought concentrate on the contribution of disciplines such as philosophy, theology and law, while medicine has been completely excluded, says Shogimen who has received an Otago Early Career Award for Distinction in Research.

“You only need to look at concepts such as the ‘circulation’ of money in the body politic, or the call to ‘amputate’ criminals from the community to realise that western political rhetoric is full of organic metaphors and medical analogies.”

He will also compare European political thought with that of Japan, whose thinkers have largely been excluded from discussions on the history of political thought.

“The ‘cross-cultural history of political thought’ and ‘comparative political theory’ are emerging as fields of cutting-edge research in political thought.”

While this project is a modest first step, Shogimen says more scholars are getting interested in the field.

Shogimen and the Department of History are organising a symposium on “Western political thought in dialogue with Asia” from 13-15 December, featuring speakers from around the globe.

Kiwi connections



Photo: Bill Nichol

Dr Davinia Thornley: Everyone loves to talk about movies ... and none more so than a bunch of homesick Kiwis.

NEW ZEALAND FILMS ARE RIDING THE CREST OF AN INTERNATIONAL wave, culminating in worldwide box office hits like *Whale Rider* and *The Lord Of The Rings* trilogy.

These successes are a source of national pride for all New Zealanders, but especially for Kiwis living abroad, according to Dr Davinia Thornley (Communication Studies). For ex-pats, these films foster their New Zealand identity while they are abroad.

Thornley, who recently returned to New Zealand after 12 years overseas, began her five-year research project in London, looking at how nationally representative films create a sense of community outside New Zealand's geographical boundaries. She interviewed social networks of Kiwis who meet regularly to watch New Zealand movies, exchange copies of films, or discuss the latest releases to reinforce a sense of national identity and belonging.

"Everyone loves to talk about movies," she says, and none more so than a bunch of homesick Kiwis.

One common theme that emerged from interviews with about 30 participants was a strong sense of pride in New Zealand films and filmmakers. Many became very emotional describing the powerful physical connection Kiwi films gave them to the landscapes back home.

"It was almost like they could reach out and touch all those things from their childhood that they loved so much, like the blue skies, the beaches or running through the bush with no shoes," she said.

Thornley and research assistant Rebecca Aronsen now plan to extend their research to canvass other large pockets of Kiwis living in the United States, China and Germany.

Coping with musculoskeletal pain



Photo: Ken George

Dr Will Taylor: "One possible factor we're interested in is self-efficacy – the belief that one has the ability to cope and successfully manage life's challenges."

MUSCULOSKELETAL PAIN IS VERY COMMON, YET THERE IS LITTLE information about how serious a health problem it is, or the impact on sufferers' lives.

Rheumatologist and rehabilitation physician Dr Will Taylor (Wellington School of Medicine and Health Sciences) is trying to clarify these issues. He's conducted a postal survey of people randomly selected in the lower North Island on how pain affects their quality of life.

"It's interesting that musculoskeletal pain for at least a week during the previous month is really common, affecting about 50 per cent of people," he says. "Disabling pain associated with difficulties in carrying out day-to-day activities is also surprisingly widespread, affecting about 30 per cent of people in the survey."

Researchers then looked at any risk factors which could be changed to prevent this more serious disabling pain.

"One possible factor we're interested in is self-efficacy – the belief that one has the ability to cope and successfully manage life's challenges.

"We found that low levels of self-efficacy are modestly associated with more disability, but this relationship is not much affected by whether the person has musculoskeletal pain or not. Low levels of self-efficacy are also associated with more disability in people without pain."

This might mean that self-efficacy is an intrinsic belief of people, not necessarily affected by having a painful health condition, and potentially could be altered in order to ameliorate any subsequent disability.

Taylor is now looking at which comes first, the disability or low self-efficacy, and whether this is different in people with musculoskeletal pain or not.

Potential challenges



Photo: Bill Nichol

Dr Fiona Edgar and Professor Alan Geare: "... very few companies provide a way for employees to have a voice in the employment relationship."

IN SPITE OF THE FACT THAT MOST ORGANISATIONS BELIEVE STAFF are their most valuable asset, many still fail to allow staff to reach their full potential.

This is the finding of School of Business research undertaken by Dr Fiona Edgar and Professor Alan Geare (Management).

A survey of 600 employees from Christchurch and Wellington companies revealed that most organisations focus on traditional methods of human resource management (HRM) to engage their employees, such as performance and appraisal. However, employees want quality training and development.

"The whole rationale for introducing HRM policies is to increase levels of worker commitment so that the company can achieve its goals," says Edgar. "While most employers would argue their employees are their greatest stakeholder, very few companies provide a way for employees to have a voice in the employment relationship."

In the study, respondents were surveyed on the level of HRM implementation within their company and employer performance in functional HRM practices. The researchers found that not all HRM practices were considered beneficial to the employee.

"We found that organisation fairness from the employee perspective is most related to health and safety and equal employment practices, but when it came to their job satisfaction, opportunities for training and development appeared to have greatest impact," says Edgar.

"What really came through is that employees want more quality training and development – useful programmes that enhance the employee's role. It is the quality of HRM practices that is particularly important in influencing employee attitudes. Quality over quantity."

Staggering success



Photo: supplied

PhD student Wendy Imlach: Her research makes the treatment of staggers a realistic and achievable goal.

RYEGRASS STAGGERS – A DEBILITATING NEUROLOGICAL CONDITION which affects grazing animals such as sheep, deer, cattle and horses – is estimated to cost New Zealand's agricultural industry a staggering \$100 million each year.

A neurotoxin (lolitrem B) produced by an endophyte fungus in grass has been identified as the cause of the condition, but exactly where this toxin acts within the body has been a mystery – and staggers has remained untreatable – until now.

Otago PhD student Wendy Imlach has shown this neurotoxin, lolitrem B, inhibits the activity of the BK channel of the cell membrane. BK channels, expressed in most cells in the body, are important in maintaining normal brain activity and blood pressure.

This inhibition disrupts brain signals to the muscles of the body, causing tremors and loss of co-ordination. In turn, this makes it difficult for animals to walk and eat, and can indirectly lead to death through accidents or dehydration.

By identifying these key biological targets, Imlach's research now makes the treatment of staggers a realistic and achievable goal. In recognition of this, she won the Understanding the Planet Earth category in this year's MacDiarmid Young Scientist of the Year Awards.

Based at AgResearch in Palmerston North, Imlach is completing her PhD through Otago's Department of Pharmacology and Toxicology. Her work now focuses on exactly how the toxins inhibit the BK channels, and has the potential to shed more light on human diseases that cause tremor and loss of motor control.

Mathematical models make genetics add up



Photo: Todd@Lighthouse

Professor Hamish Spencer: "It's pretty clear that parental effects are really important and, to understand evolution better, we should have a better understanding of how these effects work."

MATHEMATICAL MODELS ARE TO BE USED TO UNDERSTAND SOME of the more subtle changes or "parental effects" passed from one generation to the next.

Professor Hamish Spencer (Zoology), who has received a \$710,000 three-year Marsden Fund grant for his project, says mathematical models are already used to track how genes change over successive generations.

"What I am now interested in is the way parents pass on more than just genes to their offspring."

For example, research with food-restricted golden hamsters has shown they have smaller offspring with an increased ratio of females.

"That's fine – it's just an environmental effect on the individuals – but what's interesting is that if you take those female offspring and grow them up on a plentiful diet, they too produce smaller than average offspring and their litters are female biased.

"So clearly the mothers are passing on some information that's not genetic because the genes aren't changed," he says.

"These kinds of parental effects can be quite widespread. Even in species where there's little inter-generational interaction at all – for example, fruit flies."

Spencer says the goal of this work is to model the evolutionary consequences of these parental effects.

"It's pretty clear that parental effects are really important and, to understand evolution better, we should have a better understanding of how these effects work."

Spencer says the mathematical models can then be used to make predictions, extend existing findings and point researchers in new directions.

Cultivating cancer-killers



Photo: Ross Coombes

Dr Mark Hampton: The long-term goal is to develop a drug that injures cancer cells that depend on Bcl-2 for their survival ...

FOR GENERATIONS MOTHERS HAVE NAGGED THEIR CHILDREN TO eat vegetables. Now science is reinforcing this – especially with regards to cancer.

Dr Mark Hampton (Christchurch School of Medicine and Health Sciences) has been researching the cancer-killing properties of compounds that are found in cruciferous vegetables such as broccoli and watercress.

His team's recent work has focused on cancer cells containing high levels of a protein called Bcl-2. This protein protects cancer cells from undergoing "cell suicide" (apoptosis) when the cells are exposed to chemotherapy drugs. Many researchers are trying to develop drugs that stop Bcl-2 from working. Hampton and colleagues have demonstrated for the first time that synthetic isothiocyanates, identical to those present in cruciferous vegetables, can trigger suicide in cancer cells even if Bcl-2 is present.

"This is very exciting as we didn't expect such an effect on these cells," says Hampton. "The Bcl-2 protects against most conventional drugs, but it provides little protection against the isothiocyanates."

The discovery by the Christchurch team has recently been published in the international journal *Cancer Research*. It may provide a foundation for the development of new drugs that mimic the isothiocyanate compounds from cruciferous vegetables.

Hampton says that while this is a good first step, it is now important to find out how these compounds actually work inside cancer cells.

The long term goal is to develop a drug that injures cancer cells that depend on Bcl-2 for their survival, and then use the new drug in combination with conventional chemotherapy agents.

New combinations to fight breast cancer



Photo: Today@Lighthouse

Dr Rhonda Rosengren: "... we've been trying to work on either finding a single therapy or a combination of therapies that will work in these women who don't have a treatment option."

LABORATORY TESTS BY DR RHONDA ROSENGREN (PHARMACOLOGY and Toxicology) on a plant-derived compound suggest it has the potential to improve the effectiveness of existing drugs to fight breast cancer.

Rosengren has been awarded a Breast Cancer Research Trust Grant for in vitro studies using epigallocatechin gallate (EGCG).

Breast cancer is broadly classified as either hormone responsive or non-hormone responsive. In women with the hormone responsive type cancer, the drug Tamoxifen is used to block the effects of estrogen which triggers rapid cancer growth.

"Tamoxifen is a pretty good drug and has helped a lot of women, but the negative side is that if you are on it for too long you have a greater risk of getting uterine cancer."

Rosengren says the other concern is that Tamoxifen is seldom effective for women with the non-hormone responsive type of cancer.

"There are not really any good drug therapies that will work in women with that form of breast cancer, so we've been trying to work on finding either a single therapy or a combination of therapies that will work in these women who don't have a treatment option."

Cell culture experiments by Rosengren's laboratory group found Tamoxifen combined with EGCG is far more effective, requires lower doses and is also effective in killing off the cells of non-hormone responsive type breast cancer.

They are collaborating with Lesley Larsen at the Crop and Food research unit in the Department of Chemistry to get a better understanding of what is happening and why.

Pregnant pause



Photo: Bill Nichol

Dr Sherly Parackal, John Harraway, Dr Elaine Ferguson and Dr Mathew Parackal: Only 40 per cent of women surveyed believed in alcohol abstinence during pregnancy.

THE DANGERS OF DRINKING ALCOHOL IN PREGNANCY NEED TO be reinforced among women of childbearing age, an Otago multi-disciplinary study has found.

The study of 1,256 women aged 16 to 40 revealed only 40 per cent believed women should abstain from alcohol in pregnancy. Fifty three per cent consumed some alcohol in their most recent pregnancy; 40 per cent did so before realising they were pregnant and then stopped. Nearly 20 per cent binged during pregnancy, with women aged 16 to 24 more likely to binge drink during pregnancy than older women.

This project, by Drs Sherly Parackal and Elaine Ferguson (Human Nutrition), Dr Mathew Parackal (Marketing) and John Harraway (Mathematics and Statistics), was funded by the Alcohol Advisory Council and the Ministry of Health, both of which recommend no alcohol should be consumed during pregnancy.

Principal investigator Sherly Parackal says the "challenge facing women of childbearing age is to stop alcohol consumption before pregnancy occurs". Younger women need to be educated about the vulnerability of the foetus in early pregnancy, and the risks of drinking alcohol without protection from pregnancy or if trying to become pregnant. Primary health-care providers, television, magazines, websites and warning labels on alcohol containers were identified as the preferred means of disseminating this information.

The research was undertaken by using a web-assisted telephone interviewing system (WATI) developed by Mathew Parackal. WATI was designed specifically for New Zealand to collect information from individual area units across the country. He believes WATI can fast-track New Zealand in the area of health surveillance, even in remote locations.

MERGER CONFIRMED

The University and the Dunedin College of Education have confirmed they will merge on 1 January 2007.

The confirmation came in August after the Government approved a request from both Councils for the merger to proceed.

The new entity combines the Dunedin College of Education and the University's Faculty of Education into the University of Otago College of Education.

It will be based on the current Dunedin College of Education site, alongside the University campus, with faculty staff relocating in time for the 2007 academic year.

Also included will be the College's Invercargill Campus and the Central Otago Education Centre in Alexandra.

The University and College received a package of financial support from the Government to facilitate the merger. The majority is tagged as matching funding for an upgrade of the college's Bill Robertson Library.

NEW ERA FOR UNIVERSITY AND AGRESEARCH

New Zealand's first Chair in Reproduction and Genomic Science has been established by the University and the AgResearch Crown Research Institute.

The University and AgResearch signed a memorandum of understanding in August, part of which involved establishing a Centre for Reproduction and Genomics and the chair.

University Vice-Chancellor Professor David Skegg says the memorandum and the new centre are significant, as they provide a platform for researchers to collaborate on projects in the area of reproductive science.

"This collaboration will strengthen ties between the two organisations and be a framework for joint research projects. As New Zealand's most research-intensive university, we are pleased to be forging a stronger partnership with the largest Crown Research Institute," says Skegg.

There are also plans for the University and AgResearch to contribute \$250,000 each, annually for three years, into a joint seed fund for collaborative research.

AgResearch chief executive Dr Andrew West says AgResearch and its predecessors MAF and the DSIR have a long history of collaboration with the University.

"We have a higher level of collaboration with Otago than we do with any other New Zealand university. We are currently involved in around 70 research projects together."

STADIUM CONCEPT SUPPORTED

The University is strongly supporting further development of the concept of a nearby multi-use stadium complex to replace Carisbrook Stadium.

Plans for the new stadium near Logan Park were unveiled by the Carisbrook Stadium Trust in August. Vice-Chancellor Professor David Skegg says the University will be working with

the Carisbrook Stadium Trust to investigate the feasibility of such a facility.

Acting under a Memorandum of Understanding, the University and trust are looking at the feasibility of including appropriate academic or service units, and research and teaching facilities within the stadium complex.

Skegg says the University is starting the process with an open mind about the final form of the new complex, but he believes that a multi-use facility located next to the city's tertiary education campuses is the best option for the future.

"By voicing our support at this early stage, we hope to allow this option to be pursued through to the next, more detailed, phase of development."

Skegg says the opportunity to look at the future of the stadium in this innovative way has come about through a combination of circumstances.

"On the one hand, Dunedin and southern New Zealand face a major decision about the future of Carisbrook. On the other, the University is embarking on a capital development plan to alleviate serious space shortages. The time frames for resolving these two separate issues are almost identical.

"This provides us with an exciting opportunity to consider a facility that would be far more than a traditional sports stadium, which would tend to be unused for much of the year," he said.

The University would assign a portion of its capital development expenditure to this project. While some University funds might be used for dual purpose spaces – such as seminar rooms, which could double as corporate entertainment areas – Skegg says that the University involvement could not extend to any investment in "seats or turf" at the stadium.

MAJOR RESEARCH FUNDING SUCCESSES

Otago researchers have made strong showings in this year's two main national research funding rounds.

In the Health Research Council (HRC) round in June researchers from the University's Dunedin, Christchurch and Wellington campuses gained around 42 per cent of the \$61.4 million national funding pool.

Last month's Marsden round saw the University's researchers win 28 per cent of the \$39.1million fund, which was shared among 15 institutions. Only around six per cent of initial applications nationwide were eventually funded this year.

Otago's HRC project areas include cancer, schizophrenia, fertility, diabetes, Parkinson's disease, weight-loss maintenance, depression, asthma and heart disease.

Marsden projects funded include research into areas such as male brain development, Melanesian pre-history, and how honey-bee queens use chemicals to control their subjects.

NEW CHAIRS ESTABLISHED

Several new professorial chairs have recently been established under the University's Leading Thinkers advancement initiative.

As well as the AgResearch-supported Chair in Reproduction and Genomic Science, New Zealand's first Chair in Childhood Studies and Chairs in Science Communication and Child Health Research have recently been announced.

A generous gift from the Alexander McMillan Trust is behind the establishment of the new Childhood Studies Chair, while a donation from the Stuart Residence Halls Council will allow the Science Communication Chair to be established. Support from Cure Kids, the New Zealand charity funding research into children's life-threatening illnesses, has now secured the tenure of Professor Stephen Robertson, a leading child-health researcher at the University.

The Childhood Studies appointee is expected to also become the director of the University's internationally-recognised Children's Issues Centre, replacing inaugural director Professor Anne Smith, who retired this year.

The donations are being matched by the Government under its Partnerships for Excellence programme.

AGREEMENT SIGNED

The University and Auckland iwi organisation Te Runanga O Ngati Whatua signed a memorandum of agreement in July after several years of talks.

The document provides a foundation for a co-operative future between the University and Te Runanga O Ngati Whatua.

The agreement supports increased opportunity for involvement in university education by Ngati Whatua and Māori *whānau* within the Ngati Whatua area. It also allows for both parties to develop research initiatives or partnerships of mutual interest that will contribute to Māori development.

NEW LEADERSHIP SCHOLARSHIPS

The University has set up a scholarship scheme for secondary school-leavers with proven leadership ability and all-round interests.

The new Leaders of Tomorrow scholarships reward students who show leadership potential through cultural or sporting contributions within their school community or contribute to the wider community.

Fifty of the scholarships, each worth \$5,000, are being offered for 2007. The award can be used towards the cost of accommodation in a residential college and/or fees. The scholarship also guarantees a place in a residential college.

SCHOOL OF BUSINESS QUALITY APPROVED

The University's School of Business recently gained further international accreditation after gaining the tick of quality approval from a United States-based association.

The Association to Advance Collegiate Schools of Business (AACSB) has awarded accreditation to the School's bachelors', masters' and doctorate programmes.

The AACSB accreditation provides the School with a formal international benchmark and ranks it among the best 530 business schools worldwide.

There are just three business schools in New Zealand which hold AACSB accreditation. Otago's School of Business already holds accreditation from the European Quality Improvement System (EQUIS). There are currently only 92 business schools globally with EQUIS accreditation.

APPOINTMENTS

Professor **Peter Joyce** (Psychological Medicine, CSM&HS) as Dean of the University's Christchurch School of Medicine and Health Sciences.

Professor **George Benwell** (Information Science) as the next Pro-Vice-Chancellor Division of Commerce and Dean of the University's School of Business.

Professor **Ann Richardson** (Public Health and General Practice, CSM&HS) to the Chair in Public Health at the Christchurch School of Medicine and Health Sciences.

Professor **Peter Kuch** to the Eamon Cleary Chair in Irish Studies. Kuch, who comes to Otago from the University of New South Wales, is New Zealand's first professor in this field.

Hocken Collections Librarian **Stuart Strachan** as a member of New Zealand's inaugural Archives Council.

Dr **Rick Pridmore** (PhD 1980) has been elected president of the Association of Crown Research Institutes.

Justice **Jillian Mallon** (LLB(Hons) 1988) has been appointed a Judge of the New Zealand High Court.

OBITUARIES

Associate Professor **George Abbott** (66) (Paediatrics, CSM&HS, served 1973-2006). A much respected and admired researcher and teacher at the University's Christchurch School who developed an international reputation for his work in urinary tract infections.

Emeritus Professor **John Steele** (77) (Music, served 1962-1993). Known as New Zealand's father of musicology, he was responsible for establishing the Department of Music's international status in the 1970s.

Dr **Gloria Olive** (Mathematics, served 1972-1989). A former senior lecturer in mathematics, she was energetic and dedicated to her field.

Stan Hughes (97) (Physics, served 1924-1977). A greatly-esteemed senior technical officer, his highly knowledgeable and expert service to the Department of Physics spanned six decades.

UNICLIPPINGS

Helen Harris (96) (OUSA secretary, served 1948-1973). A popular and influential former secretary of the Otago University Students' Association, she received a British Empire Medal in 1968 for her services to the association.

Dr **John Money** (85) (Psychology, served 1943-47). A internationally influential and highly controversial sexologist and psychologist, he began his academic career as a junior lecturer at the University of Otago.

ACHIEVEMENTS

Professor **Warren Tate** (Biochemistry) was awarded the University's 2006 Distinguished Research Medal.

Associate Professor **Gary Wilson** (Geology) won a 2006 Sir Peter Blake Emerging Leader Award.

Associate Professor **Annette Beautrais** (Psychological Medicine, CSM&HS) won the American Association of Suicidology's Edwin Shneidman Award for 2006 for outstanding contributions in research.

Professor **Steve Brennan** (Pathology, CSM&HS) won the Outstanding Investigator Award from the International Fibrinogen Research Society.

Dr **Peter Dearden** (Biochemistry) was awarded the Queenstown Molecular Biology Most Promising Researcher Award for his research into evolution.

PhD student **Logan Walker** (Pathology, CSM&HS) was awarded the Johnson and Johnson Research Student Award at the International Congress of Human Genetics for his breast cancer research.

Senior Research Fellow Dr **Kyp Kypri** (Injury Prevention Research Unit) won the international IVO Award for addiction research.

Associate Professor **Ewan Fordyce** (Geology) won the 2006 Coastal Otago Conservation Award for his sustained commitment in helping to develop the Vanished World project in Duntroon.

Professor **Derek Holton** (Mathematics) has been awarded a CMSA medal for lifetime contribution to combinatorics in Australasia, while his colleague Associate Professor **Robert Aldred** has been awarded a Nihon University Medal for his joint work on graph factors.

The following Otago academics received the 2006 Early Career Awards for Distinction in Research: Dr **Peter Dearden** (Biochemistry), Dr **Takashi Shogimen** (History), **Jacinta Ruru** (Law), Dr **Jonathan Waters** (Zoology), Dr **Jacob Edmond** (English) and Dr **Blair Blakie** (Physics).

Claire French (BSc 2003) won the overall MacDiarmid Young Scientist of the Year Award, while PhD students **Wendy Imlach** and **Pei-Yu Wang** won the Understanding

Planet Earth and Advancing Human Health categories respectively. **Damien Fleetwood** (BSc 1997, MSc 2002) won the Adding Value to Nature category.

PhD student **Caroline Shorter** won the 2006 Zonta/Building Research Award for her work on the effect of moulds on air quality in homes, while Dr **Victoria Metcalf** (BSc 1996, PhD 2002) won the ninth Biennial Zonta Science Award.

Law student **Charlotte Kirkcaldie** and **Sophie Atkinson** (LLB(Hons) BA 1996) won the International Negotiation Competition Shield after beating teams from the world's top law schools.

SCHOLARSHIPS/FELLOWSHIPS

Dr **Philip Sheard** (Physiology) has received a Fulbright New Zealand's Senior Scholar Award to undertake research into brain nerve connectivity at Harvard University.

Three Otago PhD students have received Top Achiever Doctoral Scholarships. They are: **Emese Toth** (Physics), **Jennifer Robinson** (Microbiology) and **Diane Campbell-Hunt** (Geography).

Anna Santure (BSc(Hons) 2001, PhD 2006), has received the inaugural Livestock Improvement Patrick Shannon Scholarship to undertake research at the London Institute of Zoology.

QUEEN'S BIRTHDAY HONOURS

Staff honoured in the list include: Associate Professor **Anne Bray** (Health Sciences) and Emeritus Professor **Alastair Rothwell** (Orthopaedics, CSM&HS) who were made Officers of the New Zealand Order of Merit (ONZM) for services to medical research and to musculoskeletal medicine respectively; **Gordon Sanderson** (Medical and Surgical Sciences) was made a member of the order for services to people with visual impairments. Alumni made Companions of the New Zealand Order of Merit were: **Peter Cartwright** (LLB, 1967) and Dr **Karen Poutasi** (MB ChB 1973, PDPHeal 1980, MBA 1985). Those receiving ONZM: Dr **Brent Stanley** (BDS 1965) and **Renee Taylor** (BA 1979). MNZM: **Bradley McGann** (BCom 1987), **Vivienne McLean** (BA 1961, MusB(Hons) 1981). **David Barry** (MB ChB 1963) and **Alison Dixon** (BA 1976) were made Companions of the Queen's Service Order (QSO). **Susan Cathro** (BA 1962, MA 1970, BCom 1979) received the Queen's Service Medal for community services, while **Peter Cooke** (MPharm 1994), Rev **John Elvidge** (BA 1961, MA 1962, BD 1965) and **Michael Hucks** (MB ChB 1961) received the QSO for public services.

EMERITUS PROFESSOR

Former Dean of the School of Business Professor **David Buisson** was granted the status of Emeritus Professor earlier this year.



JOHN BUCHANAN (1818-1898)
 Milford Sound, looking north-west from Freshwater Basin, 1863
 Watercolour on paper: 222 x 509mm

JOHN BUCHANAN WOULD PROBABLY HAVE CHORTLED AT the thought of being the poster boy for New Zealand painting. During his own era he was considered first and foremost a “sciencey” sort of fellow – he was the draughtsman and botanist on James Hector’s Geological Survey of Otago. And yet there he is, pipping a couple of centuries’ worth of artists to the front cover of Gil Docking’s book *Two Hundred Years of New Zealand Painting* with his glorious watercolour of Milford Sound. (Docking’s description of the work verges on rapture. “The peaks seem to pulse and sway to a tremendous syncopated beat and the lines of stratification act like stringed instruments in an orchestra.”)

Buchanan’s botanist leanings were an accidental by-product of his early design training. He initially worked as a pattern designer at a print and dye works in his native Scotland, and, in an effort to increase the scope of source material for his designs, he took up the study of botany.

Milford Sound, looking north-west from Freshwater Basin was painted after a Hector-led geological expedition to the West Coast. While Buchanan was charged with the preparation of maps, geological sections, and drawings of fossils and plants, he was also given room to flex his artistic muscle. And when that muscle met with the sublime form of Mitre Peak and its surrounding mountains, one of our most enduring iconic images was born.

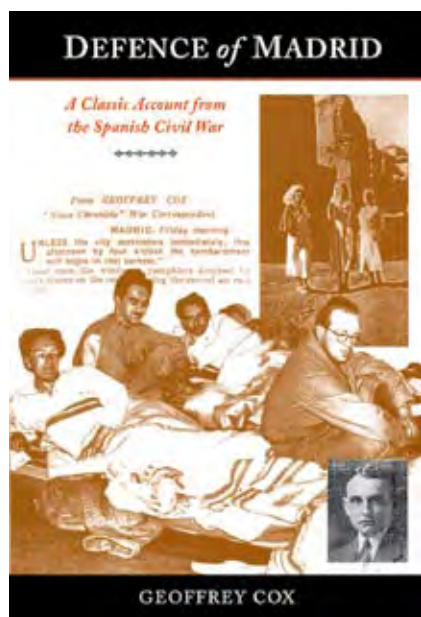
Many artists have trawled this region since, but none have captured it with the same degree of subtlety and visual clarity. Buchanan’s eye for geology – for the striations and bones of the land – and his background in patterning, lend the work a compelling rhythmic quality. Throw in a few frolicking dolphins and birds in the foreground, and you have a winning mix of science and art.

Claire Finlayson

HOCKEN COLLECTIONS GALLERY EXHIBITIONS

until 4 November 2006	George Chance: Pictorial Photography. Photographs by an award-winning English photographer who immigrated to New Zealand in 1909 settling in Dunedin. His images were made popular in the 1930s by being reproduced in calendars and magazines. The exhibition focuses on his rural South Island images.
until 13 January 2007	Beside The Seaside: Images of Coastal Otago from the Hocken Collections. A selection of paintings and photographs from the Hocken Collections featuring coastal and beach scenes of Dunedin and environs.
11 November – 13 January 2007	Dorothy Theomin: Photographer, Mountain Climber and City Daughter. Curated by Margery Blackman, this exhibition includes photographs from the Hocken archives and manuscripts collection and the Theomin Gallery at Olveston.
20 January – 23 March 2007	Recent Acquisitions. An exhibition of art recently acquired by the Hocken Collections.

BOOKS



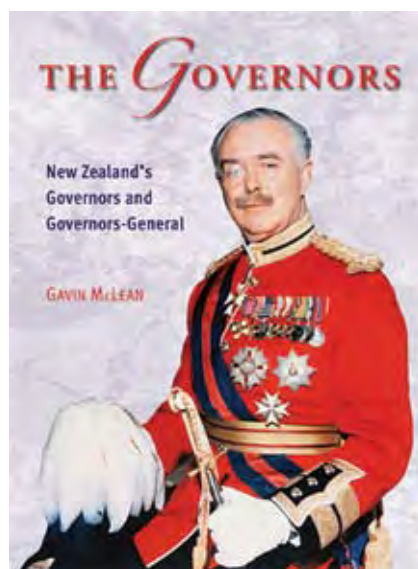
DEFENCE OF MADRID

A CLASSIC ACCOUNT FROM THE SPANISH CIVIL WAR

Geoffrey Cox

Sir Geoffrey Cox's classic 1937 account of the Spanish Civil War has been reprinted. An Otago Rhodes Scholar, Cox was the *News Chronicle* correspondent in Madrid from October to December 1936. *Defence of Madrid* is his eyewitness account of the battle between Franco's right-wing forces, supported by the Nazis and the fascist regime of Mussolini (the "rebels"), and the civilian population and its left-wing government representatives. Cox's description of the city under attack, in one of the twentieth century's first urban wars, has all too many echoes today.

This new edition, from Otago University Press, includes a foreword by Paul Preston of the London School of Economics, a selection of historical photographs and samples of Cox's journalism from the front. It will confirm the book's position as one of the classics of twentieth-century reportage and is being published for the 70th anniversary of the event.



THE GOVERNORS

NEW ZEALAND'S GOVERNORS AND GOVERNORS-GENERAL

Gavin McLean

Gavin McLean, University of Otago graduate and senior historian at the Ministry for Culture and Heritage, has written the world's first historical study of a nation's governors.

The Governors explores the important constitutional milestones in the evolution of an office that says much about New Zealand's political constitutional journey. The book begins with the early Crown colony days when governors ruled personally, then traces the uneasy period of adjustment after the granting of responsible government in 1856. The late 1880s brought a new breed of aristocratic governors who presided ceremonially. Since 1972, all governors-general have been New Zealand residents, two have been female and more recently the office has acquired a new international dimension. McLean's thoughtful, provocative and entertaining text is supplemented with more than 200 pictures of vice-regal ceremonies, costumes and events.



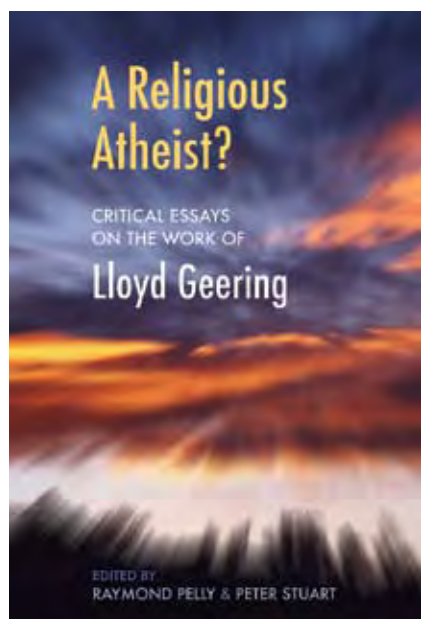
KIWI

Neville Peat

This is the only current book on New Zealand's national bird, full of up-to-date research and conservation stories. Just 15 years ago the kiwi was in retreat, from habitat loss and the severe impact of predators. It was not well understood, being nocturnal and hidden in the forest. Most New Zealanders had never seen their national bird.

During the 1990s, saving the kiwi became a popular cause. Community kiwi conservation projects have emerged all over the country, and scientific research has led to greater knowledge of the bird's population dynamics and distribution. The kiwi has truly become "the people's bird".

Neville Peat is a leading natural history writer. He explores the bird from every point of view, from wild bird to national emblem and tells the story of the largest popular movement in support of an endangered native species that New Zealand has ever seen.



A RELIGIOUS ATHEIST?

CRITICAL ESSAYS ON THE WORK OF LLOYD GEERING

Edited by Raymond Pelly and Peter Stuart

Internationally-celebrated New Zealand thinker and author Lloyd Geering has published numerous thought-provoking books on the nature of religious belief – and has also been tried for heresy (in 1967). This book critiques Geering’s now well-known religious atheism in terms of its philosophical underpinnings.

Contributors look at the justifications of “Geeringism”, in particular his rejection of the cognitive content (and other aspects) of Christian belief, and illuminate not only the specifics of his approach to the age-old question “how are we to live?”, but also the wider set of ideas from which such issues have arisen.

BOOKS MORE WIDELY AVAILABLE

Otago University Press now distributes its books through Gazelle Book Services in the United Kingdom. This means that titles are available through bookstores in the United Kingdom and Europe, as well as in Australia, North America and New Zealand. Visit the Press website for further information www.otago.ac.nz/press

RECENT OTAGO UNIVERSITY PRESS TITLES

Colonial Discourses: Niupepa Maori 1855–1863, by Lachy Paterson, August 2006.

Dangerous Enthusiasms: E-Government, Computer Failure and Information System Development, by Robin Gauld and Shaun Goldfinch, August 2006.

The History of Anaesthesia in Dunedin Hospital, Dr Jim Clayton, August 2006.

Living Together: Towards Inclusive Communities, edited by Claire Freeman and Michelle Thompson-Fawcett, September 2006.

Gothic New Zealand: The Darker Side of Kiwi Culture, edited by Misha Kavka, Jennifer Lawn, Mary Paul, October 2006.

Celebrating Forgetting: The Formation of Identities and Memories by Māori and Croats in New Zealand, by Senka Bozic-Vrbancic, November 2006.

For further information email university.press@otago.ac.nz or visit www.otago.ac.nz/press

RECENTLY PUBLISHED BOOKS OF OTAGO ALUMNI

A Fruitful Land, by John McCraw, Square One Press, December 2005.

Albatross Blue, by Dermot Mora, Phantom Press, 2005.

Survive Bird Flu and Other Disasters: the essential guide to planning, storing and preparing emergency food supplies, by Bronwen King, Hazard Press, February 2006.

Prem Sumarag: the Testimony of Sanatan Sikh, by W H McLeod, New Delhi: Oxford University Press, 2006.

Essays in Sikh History, Tradition and Society, by W H McLeod, New Delhi: Oxford University Press, 2006.

The Unquiet, by Carolyn McCurdie, Longacre Press, March 2006.

Alumni: if you have written a book lately email the editor at mag.editor@otago.ac.nz

Alumni Update

BATTLING FOR BUSHMEN ...

Kali Mercier (BA LLB (Hons) 1999) has been working on a landmark legal case involving the Kalahari Bushmen and the Botswana Government. Since July 2004 Gana and Gwi Bushmen have been fighting through the courts to be able to return to their ancestral lands in the Central Kalahari. Kali is a full-time employee of Survival International – a worldwide organisation supporting tribal peoples – and although London-based she has spent many months in Botswana helping to run the case. She has also been working directly with Bushmen living in government camps and earlier this year travelled to the United Nations in Geneva to speak on behalf of the Bushmen.

www.survival-international.org



Photo: Survival International

Kali Mercier with a Bushman child, Botswana.

GOING STELLAR ...

Computer Science graduate **David Ferguson** (BSc (Hons) 2001) is reaching for the stars. During his PhD research at Carnegie Mellon University (Pittsburgh) Ferguson and his advisor, Tony Stentz, developed an algorithm for outdoor mobile robot navigation, which efficiently plans direct paths over long distances. This attracted the attention of NASA and, after months spent interfacing the new software with current navigational systems and some very rigorous testing, it has been beamed across the solar system and uploaded to two robots, Spirit and Opportunity, on the surface of Mars. This navigational framework will also be used for future space missions, including the Mars Science Laboratory mission scheduled for launch in 2009.

<http://gs2045.sp.cs.cmu.edu/research.php>

EPIC JOURNEY ...

Jonathan Earle (BA 2000) is undertaking an epic journey of his own in a 35,000 km expedition from the South to the North Pole, a project of the Pole-to-Pole Leadership Institute. Earle will be one of 24 young people from around the world taking part in the expedition which begins in November and is expected to last 18 months, travelling by ski, foot, sail, bicycle, canoe and kayak across Antarctica, the Southern Ocean, through Africa, Europe, Russia and on to the North Pole. En route, teams will be involved in numerous environmental projects and humanitarian activities.

www.poletopoleleadership.com

LONDON CONTRACT ...

Former mathematics and genetics student **Anna Santure** (BSc (Hons) 2001) has won a contract with the London Institute of Technology where she will be working on conservation genetics to help endangered species such as bees, ants and turtles. Her work aims to prevent inbreeding and a narrowing of the gene pool in endangered species by using genetics to work out the relationships between individuals in a population.

FIRST WOMAN CHAIR ...

Wellington-based otolaryngologist **Catherine (Cathy) Ferguson** (MB ChB 1983) has been elected as the new chair of the New Zealand National Board of the Royal Australasian College of Surgeons. She is the first woman surgeon to hold the position. She currently works in private practice and as a part-time consultant with Wellington Hospital.

HARVARD FOR HOLLOWAY...

Anna Holloway (LLB (Hons) BSc 2003) left New Zealand in August for study towards a LLM at Harvard Law School after gaining a prestigious Frank Knox Memorial Fellowship to the university. The fellowship, which is based on future promise of leadership, provides \$US20,000 plus full tuition and health insurance fees. Before departing Anna practised as a commercial barrister under the guidance of one of New Zealand's top lawyers, Stephen Kos. Previously, she spent two years as a Clerk of the Supreme Court of New Zealand under Rt Hon Justice Tipping.



Anna Holloway

BOOK AWARD ...

Bill Manhire (BA 1967, MA 1968, MLitt 1970, HonDLitt 2005) won the poetry category of the Montana New Zealand Book Awards for his book *Lifted*.

We welcome news from all alumni. If you wish to share your story, please email alumni@otago.ac.nz (with the word "magazine" in the subject line) or mag.editor@otago.ac.nz

FOR ANTHRO GRADS WHO CAN'T LET GO...

Keeping alive a link to the University of Otago's Anthropology Department has become easier for anthropology graduates and other alumni with the establishment of anthrotago, an online book discussion group. The idea of anthropology lecturer Dr Ruth Fitzgerald and anthropology graduate Fiona Bowker, anthrotago tackles the work of a different anthropological theorist every month and takes the form of a wide-ranging email discussion, with a monthly face-to-face discussion over coffee for those graduates living in Dunedin. "When I graduated, I didn't lose my interest in anthropology," says Bowker, "but I did find I lost touch with anthropological theory, and I missed the lively discussions we used to have as students." Fitzgerald agrees: "Book clubs are part of the New Zealand way of life, so we chose this means for our graduates to rekindle their involvement in anthropology." From Sidney Mintz on ethnography to anthropological ideas around fat, there will be plenty of scope in the months ahead for interesting debate.

www.otago.ac.nz/anthropology/bklub/bookclub.html

120

2007

NEW POINTS SYSTEM

NOTICE TO GRADUATES

The University is changing its academic points system from 1 January 2007, bringing the Otago system into line with national requirements, and the model adopted by other New Zealand Universities.

Under the University's current points system, a full-time course over one year normally adds up to 40 points. So, a three-year degree, such as a BA, equates to at least 120 points on completion.

Under the new system a full-time course for a student will normally consist of at least 120 points per year. So, the same BA will equate to 360 points on completion in the future.

All existing points values will simply be multiplied by three from the start of 2007. A six-point paper will become 18 points, a 12-point paper 36 points, and so on. Papers at all levels, including previous years' papers, will be converted in the student records database – this is to facilitate course planning and course checking. On academic transcripts and records, however, the points values in place at the time papers were passed will continue to be displayed.

The new 120-point model will be in place from the start of the 2007 academic year. Registrations for 2007 are being administered under the new system.

This change will mean that all New Zealand universities will be operating under the same points system allowing for greater transparency between courses at different universities, and should be especially helpful for students who transfer from one university to another.



FURTHER INFORMATION IS AVAILABLE AT
www.otago.ac.nz/study/120pts.htm

Events and Reunions

UPCOMING EVENTS

Nelson, Friday 13 October. Rutherford Hotel, Nelson, from 6pm.

Suva, Thursday 26 October. This event will celebrate Otago's connections with Fiji. Lali Room, Holiday Inn Suva.

London, Saturday 4 November. Dinner at the British House of Commons, organised by the University of Otago Alumni – UK and Europe Chapter. The Vice-Chancellor, Professor David Skegg, will represent Otago. The guest speaker is Commonwealth Secretary-General Don McKinnon, and the evening will include guided tours of Parliament. This is a ticket-entry-only event.

Wellington, Tuesday 7 November.

Auckland, Wednesday 22 November and Thursday 23 November.

Please RSVP online

Interested or want more information about any of the above events? Please inquire at www.otago.ac.nz/alumni

DUNEDIN HERITAGE FESTIVAL

Planning a trip to Dunedin soon? Make it 23-26 March next year for the city's inaugural Heritage Festival. Coinciding with Otago Anniversary Weekend, Dunedin will be celebrating its outstanding built, living and (especially) music heritage. Student rock and classic music, traditional town hall dances and elegant garden parties, and an outdoor antiques fair covering several city blocks. Some of Dunedin legendary bands will be getting together for a one-night stand in Dunedin's finest historic venue. Programme updates, travel and accommodation offers are available on the festival website www.dunedinheritagefestival.co.nz

2007 SCHEDULE

The 2007 alumni schedule was being finalised as this issue went to print. Please check the website for updates about next year's events.

CHINESE REUNION

There will be a reunion of graduates of Chinese descent held during Easter 2007 in Dunedin. For more information please contact Dr Phillip Lowe 09 638 7927.

MELBOURNE NEWSLETTER

Since its April dinner, the **Melbourne Chapter** has co-ordinated a number of informal events for alumni and friends. Around 40 attended a presentation in June on Julian Hazard's project to promote dental health in the Khumbu area of the Himalayas, while those with an interest in rugby have been finding other like-minded Otago expats at the Station Hotel in Prahran for the Bledisloe Cup games. A newsletter has been launched which will be distributed by email to alumni two or three times a year.

CLASS OF 1979 MEDICAL SCHOOL SCHOLARSHIP

In 2004, the Medical School's Class of 1979 held a reunion in Wellington and at this time discussed and agreed to establish a Class of 1979 Undergraduate Medical Scholarship. It is anticipated the scholarship will be awarded annually from 2009 and be awarded to a second- or third-year (pre-clinical) medical student. Financial difficulties, personality and contribution to the class will be the primary criteria by which recipients are selected. More than \$20,000 has been raised to date. To learn more or make a gift contact alumni@otago.ac.nz

CARE TO BE WISE OTAGO APPEAL 2006

Supporting scholarships, research and library resources

For further information please telephone +64 3 479 8363 or email annualappeal@otago.ac.nz

www.otago.ac.nz/alumni/annualappeal.html

DO YOU KNOW A STUDENT WHO WILL BE STUDYING AT OTAGO?

Encourage him or her to apply for a 2007 Alumni Annual Appeal Scholarship.

The scholarship covers tuition and sundry fees for the first year of study. Applications close 1 December 2006.

For more details and an application, visit www.otago.ac.nz/study/scholarships/undergraduate_scholarships.html

MALAYSIA



SYDNEY



CARMEN

Alumni star in this Otago production



GREAT DEALS FOR ALUMNI

The Holiday Inn is offering great rates for alumni staying in Christchurch and Wellington.

Christchurch specials

Holiday Inn on Avon
356 Oxford Terrace
Christchurch
Bed & Breakfast (2 people)
\$160.00 including GST
Valid until 31 January 2007

Holiday Inn City Centre
Cnr Cashel & High Streets
Christchurch
Bed & Breakfast (2 people)
\$190.00 including GST
Valid until 31 January 2007

Wellington special

Holiday Inn Wellington
75 Featherston Street
Wellington
Bed & Breakfast (2 people)
\$149.00 including GST
Valid from 1-31 January 2007

To reserve a room, email resmgr@hicitycentrechristchurch.co.nz for Christchurch bookings and res@holidayinnwellington.co.nz for Wellington bookings. All bookings are subject to availability.

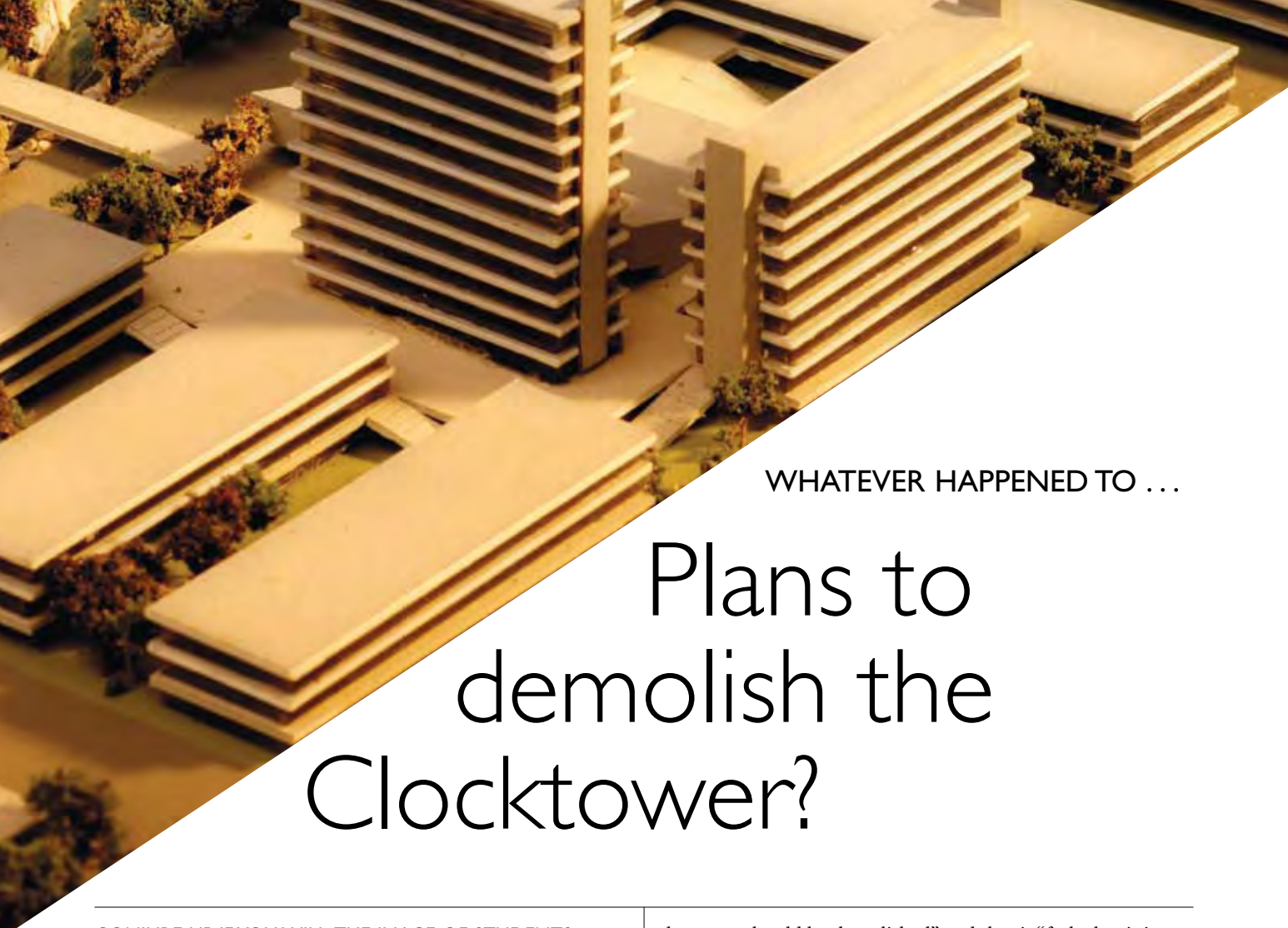
Future alumni offers

To find out more about alumni benefits, please contact katherine.keeney@otago.ac.nz

Carmen photos: Reg. Graham

KEEP IN TOUCH
www.otago.ac.nz/alumni

Updates about what's on for alumni
Your link to an online change-of-address form
Information on how to contact other alumni and reconnect with old friends
Links to virtual postcards and desktop wallpaper



WHATEVER HAPPENED TO . . .

Plans to demolish the Clocktower?

CONJURE UP, IF YOU WILL, THE IMAGE OF STUDENTS sitting on the terraced lawn on the banks of the Leith. Beyond the river, on the facing lawn, blossom billows from the flowering cherries. And there, behind them, an old grey flat building.

What, no Clocktower?

This is the 1956 vision of the future of the University.

Who knows what graduands would be having their portraits taken in front of? Or what would appear in photo albums of tourists from around the globe? Or what might grace the covers of Dunedin's promotional brochures?

What, indeed, would Dunedin have been like had the Ministry of Works had its way and succeeded in having the iconic structure demolished?

The call to remove the Clocktower came in the form of a directive from the Ministry of Works, dating back to a 1956 report, arguing that the structure's age, design and relationship to the rest of the building rendered it an unacceptable earthquake risk. (The Ministry was issuing decrees all over New Zealand, keen to see such spires nicely flattened.)

The prospect of losing one of their favourite pieces of neo-Gothic architecture was almost more than the good folk of Dunedin could bear, however.

The University Council minutes of the day politely note that, "The Council has agreed to resist the suggestion that

the tower should be demolished" and that it "feels that it is expressing the view of the great majority of members and graduates that only in the event of the most compelling necessity could it consent to the removal of the tower".

Meanwhile, from downtown, an *Otago Daily Times* editorial thunders, "The aesthetic, or even utilitarian, function of the tower is not relevant.

"The tower is a distinctive feature of the University, a symbol of the institution itself and a reminder of the vision with which the founders of this province laboured towards the system of full education for succeeding generations. Such symbols should not be swept away at the direction of dull departmentalism."

Alternative suggestions were put forward by the University, including plans to strengthen and re-grout the building, but these were rejected by the Ministry.

Next, a second team of independent engineers was brought in, endorsing the University's case that the Clocktower could be repaired, but the Commissioner of Works, one F M Hanson, remained unmoved, advising the Department of Education that restoring the tower would be "waging a losing battle" and that "the building and tower was constructed about 90 years ago of poor material in a manner more appropriate to the 16th century than the 20th".

Acting on the Ministry's advice, the director of the department wrote, "If your Council decides to proceed with restoration, it must take full responsibility for that course".

And it did. In August 1961, the University Council snubbed its nose at the authorities and approved the decision to cover the £4,500 repair bill from its own resources.

But while such details were being disputed by the bureaucracies of the day, a new debate commenced. As discussions as to the fate of the Clocktower raged, the University was embarking on a comprehensive campus development programme to accommodate new and expanding departments, and its growing student roll.

Letters to the editor appeared from writer Charles Brasch and architect Ted McCoy – who went on to design the Richardson (formerly Hocken) Building and Archway Lecture Theatres – calling for a co-ordinated approach to be taken to this exercise. Others, such as Political Studies academic Arnold Entwisle, meanwhile, cautioned that the result must also be "acceptable to the eye".

Finally, in the mid-1960s, the Clocktower saved, government architect John Blake-Kelly produced a plan to co-ordinate the schema of the expanding campus. The full-blown concept involved a series of modernist edifices linked together at first-floor level by a network of bridges.

Blake-Kelly's vision was realised only partly with the construction of the Arts Building on Albany Street and the Science 1 Building on Cumberland Street, before the plan was superseded by the Campus Planning Review 1980.

Now part of the visual history contained within a tour of the campus, the 1960s' buildings give a sense of what might have been for the University, had the Blake-Kelly plan been fully implemented in a short space of time.

