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# Māori museums inevitable says researcher

Increasing recognition of the rights of tangata whenua to have a role in the governance of New Zealand's museums will not stop the desire of some iwi to eventually relocate taonga into tribal cultural centres or their own museums, says Heritage and Museum Studies programme co-ordinator Dr David Butts.

However, there are likely to be broader benefits to the wider community from greater involvement of tangata whenua in museums, Dr Butts says.

He will this year begin publishing a series of papers that evolved from work done in his PhD thesis, Māori and Museums: The politics of indigenous recognition.

The research involved case studies of regional charitable trust museums, in Wanganui (the Whanganui Regional Museum) and Gisborne (Tairāwhiti Museum), which recently altered their governance structures to increase Māori participation. Dr Butts says both museums moved from a historical situation of limited Māori involvement in their governance to the representation of all tangata whenua iwi in their regions on the new trust boards.

He believes the trend towards increased recognition at other museums and other local institutions may have implications for the development of new governance arrangements in local and national politics.

This is important at a time when we are reconsidering our constitutional arrangements as a nation.

Dr Butts says moves are already underway among several iwi to establish tribal cultural centres. Ngāti Awa of Eastern Bay of Plenty are well advanced in the development of their own museum based around the recent return of their historic meeting house Mataatua from Otago Museum.

Recognition of the importance of Māori representation in the governance of the regional charitable trust museums and in the governance of the major metropolitan museums in New Zealand has increased in recent years, though the Whanganui and Tairāwhiti museums are the first to make specific provision for the representation of all the iwi in their regions.

Dr Butts says his research found the relationships between prominent Māori families in Whanganui and Tairāwhiti dated back to the museums' inceptions, in the 1890s and 1950s respectively.

These relationships have been important in ensuring that the museums had access to cultural advisors and these advisers were able to facilitate access to the museums' collections for members of their communities.

Most colonial museums initially concentrated on documenting the new environment by creating systematic natural history collections. There was a strong interest, particularly from the 1880s, in collecting taonga Māori, especially when they realised a lot of taonga was disappearing overseas.

To try to stem that export to museums and private collections around the world, New Zealand was one of the first countries to pass a law (the Māori Antiquities Act 1901) to keep taonga Māori here.

The latest legislation, the 1975 Antiquities Act, is currently being amended by Parliament and will be renamed the Protected Objects Act, which will bring New Zealand in line with international conventions designed to prevent the movement of illegally exported items. The amended law will also provide a process for identifying rightful ownership of any newly-found taonga, rather than have them remain Crown property as is the case under the current law.

Dr Butts says many iwi have an increasing interest in locating and documenting their taonga held in museums in New Zealand and overseas. Several iwi were now making inventories of their taonga held in museum collections.

It's probably inevitable that as iwi development continues we'll see a number of tribal museums develop.

**Created: 7 February, 2006**

Date: 24/03/2003

Type: Research



# Helping out

*Every year New Zealand spends around a quarter of a billion dollars in overseas aid. It needs to be wisely spent.*

**John Overton is Professor of Development Studies at Massey and has research interests in rural change and sustainable development. His research has spanned colonial Kenya, rural Fiji and Malaysia.**



It may seem odd to describe development work as an industry yet, with a government aid budget of nearly a quarter of a billion dollars and a large number of non-government organisations involved in development projects throughout the world, the business of aid is a large one. Although New Zealand devotes a low percentage of its GDP to aid compared to a number of European countries at least it is well regarded as a donor, especially in the Asia Pacific region.

Ten years ago, then Foreign Minister Don McKinnon stated that New Zealand's aid programme brought benefits to this country as well as to the countries we gave aid to. We were doing well out of our doing good, he said. What he meant was that aid contributes to building peace and security in the Asia-Pacific region, it raises the profile of New Zealand and goodwill towards us and it helps open doors for business. To that list might have been added the high proportion of aid expenditure that returns to this country in the form of payments to development consultants and the fees and living expenses of the large number of aid-funded scholarship students studying here. The country's official development assistance programme (NZODA) was run by a unit within the Ministry of Foreign Affairs and Trade and it seemed to many that aid was driven more by considerations of self-interest and diplomacy than altruism.

Criticisms of the official aid programme mounted during the last decade and culminated in a ministerial review of NZODA. This review, published in 2001, involved a number of sharp criticisms of aid. It was critical of the way the programme had lost sight of what it suggested should be the principal focus of aid: the alleviation and elimination of poverty. It suggested that more funding should go to countries where poverty was greatest, there should be fewer countries as recipients rather than wide dispersal, aid should be focused on things such as primary education rather than tertiary scholarships, and NZODA should be separated from the diplomatic and trade functions of the Ministry through the establishment of an autonomous government aid agency. The review was generally well received and last year in July its recommendations led to the launching of NZAID (the New Zealand Agency for International Development, Nga Hoe Tuputupu-mai-tawhiti).

Already the effects of the reform are apparent. One of the key ingredients of the establishment of the new agency is the move away from diplomatic staff running the aid programme, typically with a short time on the aid desk as part of their career cycle. Now the agency a semi-autonomous unit still within the Ministry is employing development specialists, skilled and experienced in development work and committed to the agency. Its new poverty focus is beginning to shape some new strategies, though it could be argued that 'poverty' can be so broadly defined and analysed that almost any development programme from global trade liberalisation to village water supply could be justified under its banner.

Complementing NZAID, the development industry in New Zealand has a large number of development NGOs, ranging from the international agencies such as Oxfam and World Vision to small local voluntary agencies. These organisations, often receiving their funding from NZAID and public donations, tend to work on a different level. They go where NZAID cannot to Africa, for example, where poverty is greatest and they tend to operate in ways which build links with local civil society rather than working through cumbersome bureaucracies. Development NGOs in New Zealand add around a further \$60 million in aid to NZAID's \$220 million. This total sum is almost identical to the amount this country receives for its exports in wine!

Despite all this activity and ministerial reviews, there is still a need to question the aid industry. Development projects do not have a happy history and the development literature is littered with stories of failure: inappropriate projects using inappropriate technology without the participation of the supposed beneficiaries and without the long-term commitment of donors. There have been improvements, but sceptics still regard much development work as being driven primarily by the interests of donors rather than by the real needs of recipients. It is an industry that threatens to become self-serving and self-perpetuating. Some also continue to question the very idea of development: is it a force for progress and good or a new means of control, of forcing people into particular ways of life and into a world order dominated by the rich and powerful? Environmentalists also argue that models of development based on increased consumption are simply not sustainable given the planet's limited resources and ability to absorb wastes. The challenge for the discipline of Development Studies is to reassess continually and critically the nature of development as theorised and practised. After decades of

trying, one thing we can be sure of is that there are no easy answers and no industry blueprint that will bring development to all.

**Massey University was the first university in New Zealand to offer qualifications in Development Studies and its programme is still the largest. Students can study extramurally or internally for a Postgraduate Diploma, Masters or PhD.**

Date: 05/11/2003

Type: Features

Categories: College of Humanities & Social Sciences; Massey Magazine

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# 'Them' and 'us'

*On immigration and becoming a New Zealander*

**Anne Henderson is currently a part-time research officer in a project on the resettlement of skilled migrants in New Zealand, and a full time PhD student investigating the relationships between language policy, immigration policy and language needs for successful resettlement among recently arrived skilled immigrants.**

Doctors driving taxis, engineers tossing burgers, rising house prices inflated by the demands of new arrivals, unwanted asylum seekers, flashy cars, astronaut parents, young children left alone in New Zealand, crime within the Asian student population, too many students, downturns in student numbers... so the headlines go on, highlighting settlement issues and presenting and building on a negative profile of recent immigrants from non-traditional source countries in New Zealand.



It seems that we want the skills that highly qualified immigrants may bring but we don't really want so many of 'them'; we want international students' money but we didn't foresee or plan for the problems the increased wealth or limited English-language skills might create. We invite them in as permanent residents or students but are very ambivalent about them being here. In an earlier issue of *MASSEY*, Paul Spoonley addressed the issue of immigration and its importance to New Zealand's future. He noted the disturbing emergence of anti-Asian sentiments, the wastage of immigrants' skills, and the lack of focus on the question of an appropriate multiculturalism, on what it is to be a New Zealander. These are pressing concerns in a society where at least one in fifteen in the usually resident population identifies as Asian and international students are predominantly from Asia.

So how did the face of immigration change so drastically in just two decades? The answer lies in the convergence of a combination of factors: immigration policy changes, notably the removal of the traditional source country restriction in 1986 and the introduction of a points system for economic (skilled and business) migrants in 1991; globalisation and restructuring; a growing pool of highly educated professionals potential skilled migrants and of those with greater personal (family) wealth in less-developed countries; the opening up of migration from China and other Asian countries; and the internationalisation and commercialisation of education.

In the early 1990s New Zealand began actively seeking skilled immigrants, competing both with countries that had traditionally encouraged immigration, such as Australia, and with newcomers, such as Germany. There was a rush to recruit talent. The new arrivals would, it was hoped, counter the brain drain of locals to Australia and further afield, revitalise a flagging economy, and give New Zealand a competitive edge. This presumed that their skills would be utilised, their talents tapped. Unfortunately we were not ready to cope with the challenges the new arrivals posed. They have been too different from 'us'. Their lack of New Zealand qualifications and New Zealand work experience, their limited proficiency in English or, indeed, their accents (and the ethnicity and recency of immigration these flag) have precluded them from entry to the professional workforce where they could use their skills.

Entry procedures have been progressively tightened in response to the composition and settlement problems of skilled arrivals. In 1995 an IELTS 5 English-language requirement was instituted. In 2002 this level was raised to IELTS 6.5 (the entry level for most postgraduate courses). And 2003 policy changes mean prospective skilled migrants no longer qualify for immigration if they gain enough points - they will have to register their interest, hope to find a job and wait to be invited to apply for permanent residence if we want them and their particular skills. This is likely to result in a large fall-off in skilled immigration from Asian countries, even though many bring the electronic/IT experience identified as in demand in New Zealand. At least coming to a prearranged job, where skills are hopefully recognised and utilised, will smooth the settlement process for those who do manage to make it through the selection process, and provide them with an opportunity to be more like 'us'.

International student numbers have also tested an unprepared infrastructure. Language schools have sprouted, institutions have struggled to cope with the numbers and levels of English-language proficiency, and crime has beset our hitherto model minority. Responses have included a requirement that language schools be registered, the introduction of pastoral care requirements, and, when a language school collapsed, damage control by other English-language schools and the Government to protect New Zealand's lucrative \$1.7 billion education industry. The presence of large numbers of Asian students in New Zealand and the fortunes of international education impact on how we see those who are long-term arrivals.

Unfortunately, what policy-making there is in the immigration sector tends to be reactive and piecemeal rather than proactive and planned. The latest changes may, indeed, turn out to be discriminatory. Equal opportunities and social inclusion are central to multiculturalism and a civil society. Where prejudice and discrimination exist there is a need for social policy that supports equal access to opportunities, inter-ethnic contact and shared goals rather than further barriers to entry. While policy outcomes cannot always be predicted even when there is careful planning, their unpredictability is magnified when coherent policy-making is lacking. Thus it is important for not only the economic but also the social goals of immigration policy to be clearly stated and supported by appropriate social policies related to both immigrant settlement and wider ethnic relations. These illustrate a country's response to diversity, affect the socio-economic outcomes of new arrivals and influence mainstream attitudes towards those who are identified as different. Ultimately, they determine whether visibly different immigrants will ever be identified as 'us' or forever remain 'other'.

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Type: Features

Categories: College of Humanities & Social Sciences; Massey Magazine

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# In Review - November 2003

## Backbeat Project - Johnny Lippiett

Jazz saxophonist Johnny Lippiett, the drive behind the Backbeat Project CD, traces his musical journey back to church: a Pentecostal church near his childhood home in Portsmouth, England to be exact. They had these amazing singers and musicians up there on stage, and the whole place was going off like it was some Baptist church in the deep south. The first band I ever joined was a church band, simply because of the energy, the way gospel comes straight from the heart, he says.

From gospel he went to rhythm and blues. Clapton, Page and Hendrix became his idols. But jazz lay in wait: his father was a collector of bebop and one day he took me to see this American big band playing a tribute to Stan Kenton, and man, I was in awe, watching this hot saxophone section going off right in front of me... and then I got given this Muddy Waters album for my tenth birthday, and that was it dude, I was gone. At school Lippiett was one of the three boys in his class keen on improvisation. Here we were, wanting to learn how to wail on our instruments, and our teacher used to say 'well, you boys go in the music cupboard, and I'll see you at the end of the lesson'.



Lippiett went on to study jazz. He was a finalist in the Young Jazz Musician of the Year competition. He toured in support of jazz luminary Courtney Pine, winning plaudits from the Independent as one of the most exciting and original new voices to be emerging onto the jazz scene. He played in Montreal, New York and London, which is where he and his band were based when he met Wairarapa-born Phoebe Thorp. Which is how he came to holiday in New Zealand and to meet jazz lecturers Paul Dyne and Roger Sellers. Which is how he became a tutor at the Conservatorium. The three of us instantly hit it off. Roger had been a resident at Ronnie Scott's in London, so we had much in common, says Lippiett.

For those who know their jazz sub-genres, the Backbeat Project is probably best defined as 70s funk. This may not please traditional Winton Marsalis jazz purists, but Lippiett is unrepentant. I've done the straight jazz albums, and my granny still loves them, but no one my age is listening to this stuff. So Phoebe said, 'Why don't you make an album so my girlfriends and I can come and support you at your gigs?' I thought about it and said 'Why not?' There's still some challenging jazz harmony in there, I've just put it in a different frame.

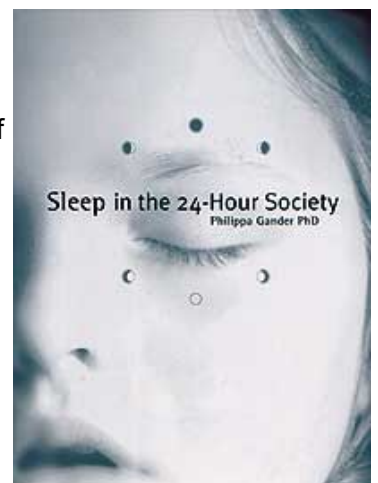
The Backbeat Project was recorded live at the Conservatorium by Richard Caigou. An alumnus, Ben Wilcox, plays the Fender Rhodes; a student, Deva Mahal (daughter of Taj), sings on two tracks; a drum tutor, Lance Phillips, is percussion; a former lecturer, Noel Clayton, plays guitar; and a postgraduate student, Manny Abrahams, who leads the Whitirea music programme, is on bass.

## Sleep in the 24-hour society - Philippa Gander

How do dolphins and other marine mammals that must periodically surface to breathe manage to sleep? The answer is that they have the ability to have one half of their brain asleep at a time.

It is sometimes light-heartedly suggested to Professor Philippa Gander that this might be a good stratagem for our own time-pressured species. While Gander is not so sure about living half awake, she can see why the suggestion might be made.

Surveys have shown 37 percent of New Zealanders to be sleep deprived, and one in four has a chronic sleep problem lasting more than six months. Yet sleep, an activity that occupies one third of our lives, has not had that much attention.



No longer. Sleep in the 24-hour Society is accessible and comprehensive, exploring sleep in its many aspects. There could be few authors better qualified to write about the topic than Gander, who spent a number of years working at the NASA Ames Research Centre in the Crew Flight Fatigue and Jet Lag Program and now heads the Sleep/Wake Centre.

## Kaimai Crash: New Zealand's Worst Internal Air Disaster - Richard Waugh

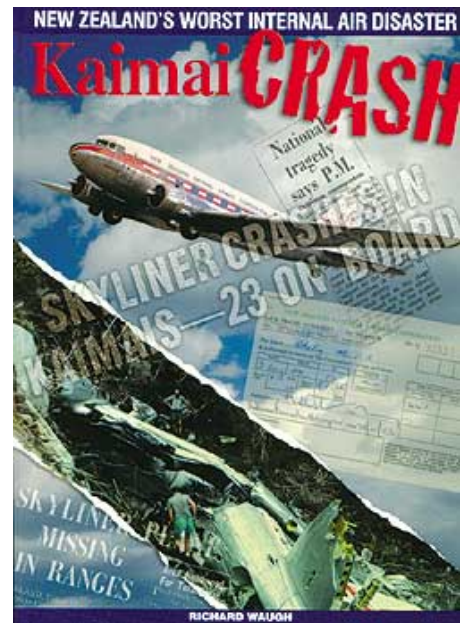


Taking Off: Pioneering Small Airlines of New Zealand 1945-1970 Richard Waugh with Bruce Gavin, Peter Layne and Graeme McConnell

On the morning of 3 July 1963, a day of thick cloud and driving rain, workers at the Gordon quarry, hard alongside the Kaimai ranges, heard an aircraft engine drone overhead then stop abruptly. They phoned the Matamata Police, who called the Tauranga control tower, which had lost contact with ZK-AYZ, a DC-3 carrying three crew and 20 passengers. The plane had flown into a bushed hillside in the Kaimai Range, close by Matamata. There were no survivors.

Kaimai Crash: New Zealand's Worst Internal Air Disaster documents the loss of ZK-AYZ, the passengers and crew it carried, the rescue operation which made good use of helicopters and the court of inquiry that followed.

The next fatal accident of a scheduled airliner on New Zealand soil would not be for another 20 years. This book and a roadside memorial at Gordon unveiled on 3 July 2003 mark an event still strong in living memory, both of the search and rescue men and women and of the friends and relatives of the dead.



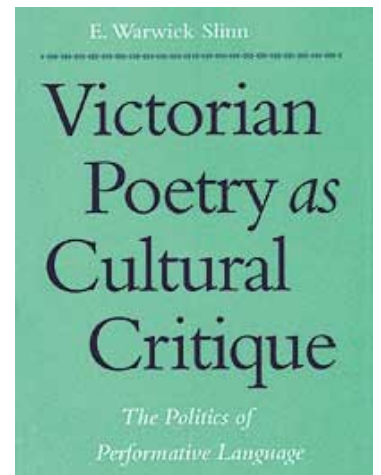
ZK-AYZ was owned and operated by NAC, the National Airways Corporation of New Zealand, but post war there were also a host of small airlines doing whatever they could to stay in business and flying a plane-spotter's delight of small aircraft. Taking Off: Pioneering Small Airlines of New Zealand 1945 1970 is a comprehensive 200 pages with many photos and illustrations look at the eventful history of these airlines and the resourceful and adventurous individuals who ran them.

Alumnus Richard Waugh, whose father was a pilot, has written prolifically about New Zealand aviation history. He is also an ordained minister.

## Victorian Poetry as Cultural Critique - Warwick Slinn

*If poetry reflects cultural processes, including  
the politics of its time, what should we make of:  
Some ways can be trodden back,  
But never our way,  
We who one wild day  
Have given goodbye to what in our deep hearts  
The lowest woman still holds best in life,  
Good name.*

The excerpt is from Augusta Webster's 1870 monologue dramatising the private reflections of a courtesan. It is one example cited by Professor Warwick Slinn in his new book, Victorian Poetry as Cultural Critique: On the politics of literary language.



The book focuses on Victorian writing but it has far broader aims and was developed in response to the tendency of recent cultural studies to neglect poetic language. The argument is that if we are to understand fully the function of figurative language in cultural processes, we need to devote serious attention to that language. The poems selected for analysis address social issues such as slavery, sexual politics, prostitution, consciousness, agency, aestheticism, religious faith and philosophical idealism.

The book is part of a series on Victorian literature and culture produced by the University of Virginia Press, which receives a high academic profile in North America. Professor Slinn is Head of the School of English and Media Studies.

Date: 05/11/2003

Type: Features

Categories: Alumni; Book; Library; Massey Magazine

# An entrepreneurial expert

*If you think of entrepreneurship, you probably think of individuals. Say Richard Branson, now in New Zealand with Virgin Blue, Annita Roddick of the Body Shop or, more locally, Dick Hubbard or Stephen Tindall. Here they are, swashbuckling forth, toppling the status quo, creating wealth and opportunities and providing us, along the way, with superior products and services. We should, we feel, be more like them.*

As a culture we are newly in love with entrepreneurship, with the idea of being entrepreneurs. But while there are plenty of puff-piece magazine stories and biographies lionising individual entrepreneurs, plenty of 'how to' and motivational books, there's very little published empirical and theoretical research into entrepreneurship or the conditions that foster it. This is a shame, for if we don't understand entrepreneurship, how can we encourage it?



If there is a person who knows the state of research into entrepreneurship in New Zealand better than anyone else, it must be Albany-based Professor Anne de Bruin, who with her colleague, Ann Dupuis, is the co-editor of the recently published *Entrepreneurship: New Perspectives in a Global Age*. Two of the chapters in this twelve-chapter, densely-referenced, academic text have been authored by de Bruin, and she has co-authored another eight.

What makes for an entrepreneur? The answer you give may be a clue to where you are from. In New Zealand, Australia and Britain entrepreneurs are seen as being distinctively innovative, opportunistic and risk-taking; in America and Canada the view is more that anyone in small business is an entrepreneur.

The book nicely skirts the problem by defining entrepreneurship as a continuum. Branson sits on the continuum, but then so does the woman selling clothes at the Otara fleamarket. The book also adopts an approach of 'embeddedness': placing the entrepreneurial activity within the context of the surrounding social environment.

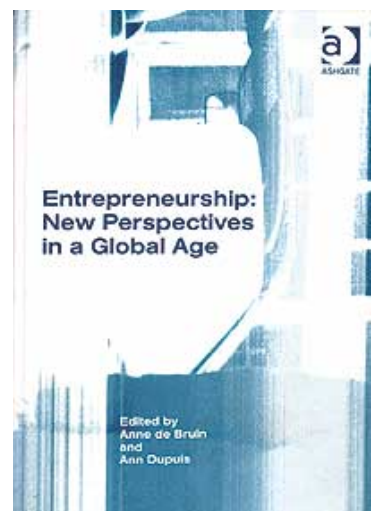
The book has chapters on familial entrepreneurship, indigenous entrepreneurship, youth entrepreneurship, ethical entrepreneurship and community entrepreneurship. Of particular relevance, given the rapidly-ageing profile of New Zealand's population, is a chapter on elder entrepreneurship. In the Netherlands and the UK 10 percent of people starting new businesses have been found to be age 50 and over. Hearteningly, these businesses have good survival rates: they are three times more likely to survive than businesses started by people in their teens or twenties.

Entrepreneurship can also be a part of government, both local and central. Just as the private sector can use resources in new ways to maximise productivity and efficiency, so too can the public sector. *Entrepreneurship: New Perspectives in a Global Age* has chapters on Municipal-Community Entrepreneurship and State Entrepreneurship.

In the latter, de Bruin proposes that the term welfare state no longer properly describes the function of the state in the global age and that a new term, the 'strategic state', should be employed. The strategic state acts entrepreneurially, and exhibits opportunity-related strategic behaviour.

You can find expressions of the strategic state in Industry New Zealand, in the Ministry of Economic Development, in aspects of the Tertiary Education Commission and most explicitly in the 2002 policy framework, *Growing an Innovative New Zealand*, which sees the state assuming leadership in strategies for economic development that are based on fostering an effective innovation culture.

It seems entrepreneurship, far from being the province of the élite few, is everywhere.



Date: 05/11/2003

Type: Features



# Surveys in the dock

*Lies, damned lies and questionable surveys. Not all surveys are to be trusted. Professor Janet Hoek can tell you which ones can.*

Who has the right to use the name Budweiser? Does it belong exclusively to the American brewery that began making a beer of that name in 1876, or can it be used by, let us say, the Czech brewery, Budejovicky Budvar, to sell its own Budweiser Budvar?

The American brewery knew where it stood. From the 1990s, country by country, it launched a series of suits against Budejovicky Budvar over trademark confusion, and among the evidence it presented in New Zealand was a survey.

Call expert witness Professor Janet Hoek.

In legal cases involving intellectual property or trademarks, the use of surveys has become commonplace. How easily can one trademark be confused with another? A consumer survey should say. However surveys, like witnesses, are not all to be trusted, says Hoek.

And Budweiser's survey was, in Hoek's opinion, a survey not to be relied on: flawed in its methodology, in the wording of its questions, in its design and its administration. The respondents said they had been almost harassed into the 'correct' responses.

Survey evidence used to be considered hearsay, as the respondents weren't available to be cross-examined, says Hoek.

The use of surveys seems to be increasing, but a lot of the evidence adduced shouldn't be given much weight because of flaws in the way the surveys have been designed or conducted.

Recently Hoek and her colleague Professor Phil Gendall (who is also often called on as an expert witness) were commissioned by the New Zealand Law Foundation to examine the use of survey evidence in intellectual property litigation. The nearly \$40,000 grant will go toward developing a series of guidelines to be used when commissioning and reviewing survey evidence in intellectual property cases.

With Hoek often being called on to critique other people's survey methods, she is very careful with her own.

The direct-to-consumer advertising (DTCA) of prescription drugs is a practice only found in the USA and in New Zealand, where it became legal in 1981. It is DTCA that brings you word of those best-selling products that help you lose weight, control asthma, keep hair, and address problems of a personal nature.

Whether DTCA should be legal is contentious. While drug companies and free market advocates naturally favour DTCA, others are less certain. One of the arguments about DTCA is that it is promoting new, expensive medication when there are cheaper generic drugs available, says Hoek, and there is also concern that people are self-prescribing.

Hoek and Gendall carried out a major survey of the New Zealand public's views on DTCA. Our mail survey of the general public achieved a 64 percent response rate and resulted in a sample of over 600 respondents that was carefully drawn to ensure it properly reflected the New Zealand adult population. The findings reveal that, when asked if DTCA should be banned, nearly 70 percent opposed or strongly opposed this proposition, and only 11 percent supported or strongly supported it.

Many of the respondents were very aware of DTCA, says Hoek, particularly the television advertising.

This awareness indicates the pervasiveness of DTCA and its potential to affect consumer behaviour.

However a point in favour of greater regulation the survey also revealed that consumers were much more likely to recall seeing details of medicine benefits than they were the risk or side-effect information.

In New Zealand the small-print is very small, and voice-over warnings are swamped by cleverly constructed images of happy, healthy consumers. This imbalance, says Hoek, poses a public risk.

The trouble with most New Zealand advertising is that it is not always balanced. There is frequently a lack of



information about side effects, the cost and the risks.

In comparison, DTCA in the USA features a mass of detail a full-page advertisement is often accompanied with another full page of information. Professor Hoek is currently working with a researcher at the University of Oregon, comparing advertising content and the different regulations.

## How to steal a competitor's thunder

One of Hoek's professional interests is ambush marketing. Described in a popular marketing journal as a parasitic activity that encroaches on legitimate sponsorship, ambush marketing is where a firm engages in promotions that invade a rival's sponsorship. During the 1996 Atlanta Olympics, Nike ambushed Reebok, the official sponsor, by purchasing prominent billboard space overlooking Atlanta's Olympic Park.

Although ambushing is commercially irritating for the 'ambushed', this type of marketing typically obeys fair-trading legislation and can be defended as legitimate competitive behaviour, says Hoek.

I don't think the question of whether ambushing is ethical is as important as the question of what activities competitors can legally engage in. If they can buy advertising rights to events that a rival sponsors, there is nothing illegal in their advertising. I think contracts need to be much more clearly defined and sponsorship rights need to be better co-ordinated to ensure loopholes are eliminated as far as possible.

Ambush signage or the New Zealand Rugby Union's failure to promise a stadium free of it can be blamed for New Zealand's loss of co-hosting rights to the 2003 Rugby World Cup.

The Atlanta Olympics when Nike ambushed Reebok also saw Hoek summoned to court as an expert witness. Fresh to New Zealand's communications market, BellSouth, a sponsor of the 1996 Atlanta Olympic Games, objected to Telecom's simultaneous print campaign parodying the five-ring Olympic symbol.

## A catalogue of errors

Coverage error occurs when the sample doesn't represent a microcosm of the population of interest.

In the case of Budweiser vs Budejovicky Budvar, the survey failed to define particular segments of drinkers within the beer marketplace, an important oversight because the beers involved were premium-priced imported packaged beers (ie, belonging to a niche market).

Measurement error occurs when questions don't measure the particular issue. Push polling, where people are told negative information about a candidate before being polled, is an example of measurement error that can lead to biased estimates.

The Bud vs Bud survey featured four measurement flaws relating to the design of the survey, the administration of the survey and the interviewers' qualifications and conduct.

Sampling error depends on the size of the sample and the sampling technique used (the bigger the sample, the smaller the margin of error and the more precise the estimates).

The Budweiser researchers overlooked the important question of whether the estimates were unbiased. Of those classified as confused between the two brands, less than a quarter had consumed or purchased 'European' packaged beer within the past three months and many fewer still had purchased or consumed premium-priced imported beers, suggesting that the evidence of 'confusion' was based on the responses of people who were unfamiliar with the market partition.

Non-response error occurs when the people who don't answer a survey differ from those who do. Because they haven't answered, it's very hard to know when this affects the estimates obtained, which is why surveyors aim at a high response rate, to minimise the likelihood that NR error will seriously affect the estimates obtained.

The survey response rate was a source of contention in the Bud vs Bud case; the calculation presented bore no relationship to any standard response rate formula and was clearly inaccurate.

Date: 05/11/2003

Type: Features



# Unto the Third and Fourth Generation

*Expectant mothers beware. What you eat now could affect not just the health of your children, but also that of your grandchildren and great grandchildren.*

The latest research from around the world admittedly only on mice so far suggests that the level of nutrients females receive during pregnancy may influence the physical traits and health of their offspring for a generation, and possibly for generations beyond.



Confirming or disproving this finding is the intention of one of the first projects for the National Centre for Growth and Development, one of the Government's new Centres of Research Excellence. The Centre brings together the animal genetics and reproduction science at Massey University and AgResearch with the human genetics expertise at the Otago Medical School and Auckland University, the Centre's host. Massey will conduct its studies using sheep, but there will also be human epidemiological studies.

The Massey effort is being led by Professor of Animal Science Hugh Blair. An animal geneticist who specialises in improving the performance of a range of animals, from sheep and dogs, to fish, Blair says while the research has the potential to have major impacts on our agricultural productivity, not to mention the health of our society, he is equally excited about the opportunity to collaborate with the medical schools and AgResearch. The CoREs are all about encouraging relationships between groups that might not otherwise get together. There will be spin-off collaborations across boundaries that never would have occurred otherwise. Linkages will be created for research beyond the life of the CoRE.

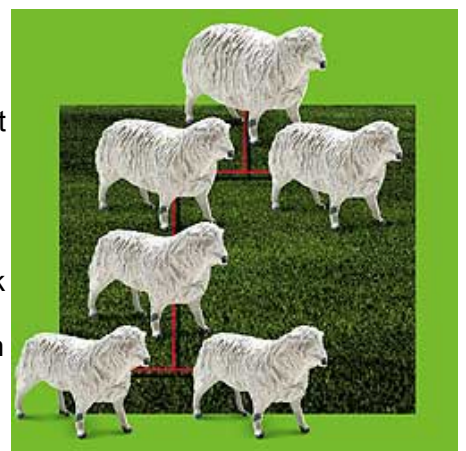
Twelve staff from the Institute of Veterinary and Animal Biomedical Sciences and the Institute of Food Nutrition and Human Health will contribute towards the CoRE, whose core business will be the emerging field of science, epigenetics (see sidebar).

The Massey researchers will study how nutritional stress on pregnant ewes affects the growth and performance of their lambs. The human research teams will focus on understanding how what a mother eats during pregnancy can affect her baby. The results with mice suggest poor nutrition can lead to premature birth and low birth weights. It also appears to have transgenerational effects, leading to a susceptibility to heart disease and diabetes in the offspring when they are adults, and low birth weights in their children. However, it's improving the survivability of newborns that is the immediate focus.

For Blair, confirmation that some form of manipulation in the diet of the mother could force a transgenerational change has huge implications for farming.

If the hypothesis is correct, New Zealand farmers have been managing their assets, their stock, wrong for centuries.

Traditionally over the harsh winter months when feed is scarce, ewes are run on limited feed. This is because, of all farm stock, ewes are seen to be the least affected by this regime. This technique may be causing long-term damage not only to the potential performance of the immediate offspring but also to that of their progeny. It may be impossible for farmers to change their overall management. But we might be able to identify times when certain levels of feed should be given achieve to optimum results.



Massey has already embarked upon its first trials. A high growth rate Suffolk ram has been mated with a mob of small-body-weight Cheviot ewes and the lambs will be born this spring. Blair says there is reasonable evidence in the scientific literature that a small female will depress the weight of her foetus so that she can give birth more easily. We want to test how that happens. Will a Cheviot ewe with a Suffolk lamb inside her suppress the weight of her foetus, and, if she does, how does she do it? We will have a ready-made model to identify what mechanisms can be used to suppress the size of a foetus. The size is determined by how much nutrition is transferred across the placenta. But who dictates this? The ewe or the lamb?

There were famous experiments in the 1930s where a Shetland pony was crossed with a Shire horse but no one has unravelled how the mother ensures both she and her offspring survive. Blair says, until now, there hasn't been a need. But as real returns erode, farmers want to make production gains to maintain profit. The percentage of lambs per ewe that survive to weaning is an obvious result to focus on. Stud breeders are achieving 200 percent in their flocks and the national average last year for commercial farmers was a record 123 percent, but these percentages hide the fact that many farmers are achieving less than one lamb per ewe.

Research, much of it from Massey, has shown that lambs with low birth weights have lower survivability and growth rates. The rodent research shows that those that do survive could be passing this weakness on to their offspring. Identify what triggers low birth weights and we could discover how to 'turn on or off' the gene that signals birth weight and growth having a major impact on farm profitability.

## Epigenetics

Epigenetics is a relatively new field of science, though researchers have long puzzled over how genetic traits that aren't explained by changes in the DNA sequence can be passed on. Dutch women who went hungry during the Second World War who gave birth to underweight children, who in turn gave birth to small children, provided the first evidence that nurture could influence nature and that nature could be passed down the generations. Research recently published in *New Scientist* by Randy Jirtle, of Duke University Medical Center in North Carolina, provides the latest. His team found a link between diet and coat colour in mice. By giving female mice extra doses of four common nutrients during pregnancy the researchers were able to influence the coat colour of the offspring who were also less prone to obesity and diabetes than genetically identical mice whose mothers had not been given supplements.

Researchers hypothesise that this odd form of inheritance could be caused by adding tags, called methyl groups, to DNA. These tags result in chemical changes (methylation) in the DNA that can switch off a gene without altering the underlying sequence. It's possible these methyl tags can then be passed on to future generations. It has been shown in mice that various factors can trigger the chemical change, from certain drugs to viral infections. Jirtle's work would appear to indicate that diet can also affect methylation. However, in mice, coat colour is determined by a particular, unusual, gene, which is linked to other aspects of metabolism. The question now is: is there an equivalent in humans and in sheep?

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# Thinking small - nanotech becomes hot

There are measures that are truly difficult to comprehend and a nanometre a billionth of a metre or  $10^{-9}$  is one. Think of the measure, if it helps, as 80,000th the width of a human hair.

Another way of thinking about nanometres is that this is the smallest scale at which things can be constructed. If you go much smaller and move the constituent parts of atoms then you will actually be fulfilling the alchemist's dream of transmuting one element to another.

So small are objects at the nanometre scale that the wavelength of visible light is too coarse to view them.

The art of building structures whose features are less than 100 nanometres in size is termed nanotechnology. Because the only point of definition is size, nanotechnology embraces a vast number of disciplines and applications. However, approaches to fabricating nanotechnology can be divided into two: top down, which carves away or adds molecules to a surface; and bottom up, which has molecules self-assemble into useful structures by using carefully controlled chemical reactions.

The allure is easy to see. Nanotechnology will bring us information storage devices many times more compact than those of today (on their way); quantum computers, tiny and incredibly powerful (and some way away yet); thin flexible displays; small, cheap-to-launch satellites; and medical technologies that will work at the molecular and cellular level, killing cancer, removing blockages and delivering drugs precisely. And, because it is so precise, nanotechnology will lead to manufacturing without waste.

Some believers those most given to Jules Verne-ish fantasising imagine a time when nanobots will make shoes, ships and other nanobots; even, given a supply of organic material such as grass, produce the steak for your plate. There is an attendant dystopian nightmare as well: grey goo, a mass of self-replicating, all-devouring nanobots. Fortunately most of those involved in nanotechnology, while flattered by the faith placed in their abilities, believe there's no danger of this yet. You simply can't manipulate objects at the nanoscale as you would when dealing with herds of molecules. Molecules stick to one another or refuse to bond, according to their chemistry. Proteins twist. Electricity is conducted in quantum increments.

Although nanotechnology was presaged as far back as 1959 in a talk by Richard Feynman to Caltech, and the scanning tunnelling microscope enabling scientists to 'see' individual atoms was invented in 1981, nanotechnology as a defined area of research rose to prominence only in the late 1990s. Its official arrival was marked by the Clinton administration's year 2000 announcement of the National Nanotechnology Initiative.

When will we begin to see fruits of all this research? Officer predicts that numbers of new nano-enabled technologies will begin to enter our lives from 2010 on.

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## Catching some rays

### *Solar cells using nature's own model could change the shape of the world*

The science tower building in which Professor David Officer, Director of the Nanomaterials Research Centre, has his office is typical of the energy practices and technologies of our age. The power that heats and lights the building, that powers the computers and lab equipment, has come from hundreds of kilometers distant, from the vast turbines powered by the dams

of the middle North Island and the Southern Alps. Meanwhile, the most immediate source of energy, the sunlight spilling across the glass and concrete, is going to waste.

This is not the case elsewhere on campus. Waste not want not, the trees and grass are harvesting light without fuss, taking water and carbon dioxide and alchemising them into oxygen and sugar, turning the campus green with spring growth and keeping the gardeners busy.

Close to 40,000 times more power in sunshine than we use falls on the earth. What if mankind could capture solar energy with anything like the efficiency that plants manage? What if we could build solar cells with the chemistry available to plants? Clean, green, cheap, world-changingly abundant energy.



Energy is the most pressing and crucial problem confronting the world. Pressing because as we look towards a time when the world's oil production will begin to decline, the world's total power consumption is growing.

In 2001 the world's consumption of power was 13 terawatts; in 2050 the best estimate of demand is 30 to 50 terawatts. Crucial, because solving the world's other problems the matters of food, water, the environment, war and terrorism will be that much easier if power is abundant.

The world's oil and gas reserves are dwindling. Wind, biomass, waves, dams: none of them will give us enough power. The long-lived radioactive by-products of nuclear fission are dangerous; how to store them is a dilemma. Coal brings with it carbon dioxide emissions and global warming. Nuclear fusion is good fodder for scientific journals but nowhere near a practical proposition. Geothermal power is too expensive. As, for now, is solar power.

Silicon is the world's second most abundant element, but it must be far removed from its natural state to be used in solar cells. Solar cell-grade silicon must have less than one billionth of a percent impurities. The process of smelting, refining and distilling silicon is energy-hungry and very expensive. Most solar-grade silicon is produced as a by-product of producing still purer silicon for computer chips.

The upshot of all this is that to equip a home with enough solar cells and associated equipment to cope with a modest power demand will set you back around US\$32,000. If you suppose that the cells have a 20-year life and do the sums, you will find that going solar will not save you money, but cost you substantially more than buying power.

If you are at a distance from the national grid, then solar cells make sense. Not otherwise.

Silicon solar cells have other drawbacks as well. They perform poorly in the low light so often prevalent in

cloudy climates, and they are rigid or semi-rigid; fine for cladding a roof, but unsuited to many applications.

So researchers like Officer and his collaborators have been pursuing a number of alternative non-silicon approaches. All of them, so far, have catches that prevent them being commercial propositions. The closest thing so far is the Graetzel cell, developed in Switzerland and named after its chief researcher.

Between two layers of glass the Graetzel cell sandwiches a layer of titanium dioxide doped with a ruthenium-based dye and a layer of a conducting liquid electrolyte. The Graetzel cell has achieved efficiencies of greater than 10 percent. It works well in low light, and titanium dioxide a principal ingredient in white paint is cheap. The catches: ruthenium, the main ingredient of the dye, is rare and expensive. And, a far greater problem, the liquid electrolyte is highly corrosive.

Another approach has been to sandwich two thin films of plastic together, one of them electron rich, the other electron poor, using very much the same mechanism as used in a silicon cell. The catch: the cells are relatively inefficient --- 2 percent efficiency is the best achieved so far and must be sealed away from air and humidity to last any time. Still, if this approach worked, almost anything could wear its own solar cell, and the technology would be cheap.

All in all, nature does it so much better. And the miracle ingredient is a group of light-harvesting molecules, the best known of which is chlorophyll.

Deconstruct the architecture of a leaf and you will find molecular machines called chloroplasts. Inside the chloroplasts are closely spaced arrays or 'antennae' of 200 to 300 chlorophyll molecules. When a molecule of chlorophyll absorbs light energy, an electron is excited from a lower energy state to a higher energy state. In this higher energy state, the electron is more readily transferred to another molecule, and a chain of electron-transfer steps channels down the antenna to a reaction centre where chemicals are produced. If you were to direct those electrons to a circuit instead of a reaction centre, you would have a solar cell.

Chlorophyll belongs to a family of molecules called the chlorins ('chloros' is Greek for 'green'), and the chlorins, in turn are part of a larger family called the porphyrins ('porphyrios' is Greek for 'purple'). Officer can make porphyrins to order. He can produce a range of colours; he can 'tune' the porphyrin to capture particular light frequencies; and, mimicking the structures within the chloroplast, he can arrange the porphyrins in arrays.

But when it comes to generating solar power, porphyrins are surrendering their promise grudgingly. Working with Graetzel, Officer has managed to link porphyrins to the semiconductor titanium dioxide. In the Graetzel solar cell this gave an efficiency of 4 percent the best efficiency ever achieved for non-metal based dye, but well short of the 10 percent achieved with a metal-based dye. Used as an ingredient in a polymer cell, the porphyrins gave an efficiency of 0.2 percent. An encouraging result and one Officer is sure he will easily better, but nothing like the 4 percent-plus efficiency necessary for a commercial prototype.

Officer thinks the solution might be to maximise the contact area between the two polymer layers: the electron-rich layer, and the electron poor. In his mind's eye he sees a series of interlocking 20 nanometre-wide grooves. But how do you mass manufacture a polymer surface with such precision? He is looking at how to optimise porphyrin- and non-porphyrin enriched polymers for use in solar cells. Research continues.

## Professor David Officer

Officer began his work synthesising porphyrins in 1990 while on sabbatical. In 1996 he and Dr Bonfantini, whose postgraduate work Officer had supervised, reported the then largest-ever synthesised porphyrin array. The paper they published was much cited.

If Officer's work with porphyrins were to lead to a commercially viable solar cell it would fulfil both his ambition and his idealism.

Small is Beautiful: Economics as if People Mattered, published in 1973, is one source of inspiration he refers to in his frequent public talks. Shumacher, the author, favoured what he called intermediate technology, based on smaller working units, co-operative ownership, and regional workplaces using local labour and resources.

Another source is Dave Irvine-Halliday, an engineer who has used rechargeable, battery-powered, white LED cluster lamps to illuminate more than 700 homes, schools and other community buildings in remote villages in Nepal, India and Sri Lanka.

A third is simply the thought that he would like his children Officer is a devoted solo father of five to inhabit a



better world.

Officer's enthusiasm for science and solar power have turned him into something of an evangelist for both. A newspaper clipping from 1990 shows him performing science-magic before a crowd in the Palmerston North Square: hammering a nail into a plank using a banana frozen with liquid nitrogen. Another shows Officer, the impresario for the Millennium Solar Project, standing by a hilltop wind-farm on the dawn of 1 January 2001 surrounded by the illustrious international solar researchers he had brought together to welcome in the dawn (which, as it happened, was shrouded in fog. Video footage of sunrise on the Chatham Islands was used as a stand-in.)

## The Nanomaterials Centre

Founded in July 2001, the Nanomaterials Research Centre (NRC) has a \$2 million per annum research budget, six postdoctoral fellows, nine research students and two research technicians, and 12 national and international collaborations.

The NRC specialises in functional material and nanomaterial systems. The research under way includes photovoltaic materials, batteries, carbon nanotubes and nanofibres, intelligent materials based on conducting polymers, material synthesis, surface modification, and device development.



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# Why there's nothing wrong with being popular

*At least where the writing of history is concerned*

**Professor Kerry Howe is the author of *The Quest for Origins: Who First Discovered and Settled New Zealand and the Pacific Islands?***



If you enjoy both the sweep of history and the detail of human lives then there have been a number of books I can recommend: Dava Sobel's *Longitude*; Simon Winchester's *The Map that Changed the World* and, more recently, *Krakatoa*; Tim Flannery's *The Future Eaters*; and the book that has most influenced me recently Jared Diamond's *Guns Germs and Steel: A Short History of Everybody for the Last 13,000 years*, which seeks to explain human cultural development in pre-agricultural days and explains the post-1500 power imbalances that created our modern world. So much has *Guns Germs and Steel* influenced me that I use it as a text for a history paper I teach called 'A History of the World'.

None of these popular and influential works of history has, so far as I know, been written by historians. Winchester is a geology graduate and a journalist, Flannery a naturalist, Diamond an evolutionary biologist. But for me their works are history at its best, bringing together specialised findings from a range of disciplines, especially the sciences, and fitting them into wider conceptualisations of human development. These were the models I turned to when writing my own work of popular history, *Quest for Origins*.

In *Quest for Origins* I have tried to tell the big story about the human settlement of the Pacific islands, in its own terms, but also in terms of this settlement being the last and greatest of all human terrestrial migrations. It always excites me to think that New Zealand was the very last place of all to be settled by humans. The human journey began in Africa, several million years ago. New Zealand witnessed the end of that journey only 700 years ago. We are truly the last, loneliest place.

As did the authors I admire, I hopped between disciplines, combining the findings of archaeology, linguistics, and physical biology to present them to an intelligent general audience. I tried to locate issues in Pacific prehistory in the context of our own time with its various values and priorities, just as earlier Western theories about Pacific peoples' origins were similarly located in their intellectual milieu.

Why don't we see more works at once highly informed yet at the same time popular and accessible coming from historians working within academia? There are, I think, a number of reasons.

History within our universities has for a very long time been based on the notion that doing any 'bit' of history is as valid as any other, and can be done pretty much independently of other events. So academic historians and their students are encouraged to study whatever aspect of history they chose. That is, of course, how it should be. The prescribing of topics or research projects by institutions or governments would be anathema. Yet one downside of the choose-your-own-topic tradition is that historians have tended to focus too narrowly on their various interests. A medievalist is not likely to be too concerned with the industrial revolution, just as a feminist historian of Australia is unlikely to study the botanical history of Easter Island. Academic history writing, particularly over the last generation, has been beset with micro-specialisation of research topics, with the results published in a myriad of highly specialist journals.

Then there are the twin waves of postmodernism and postcolonialism. The former, which says that history does not exist, only historians do, is concerned to show not what happened in history, but who writes history and why, and what are the underlying authority structures of such writing. So history is seen to exist only as a 'discursive practice', which requires 'deconstructing'. This approach has led many historians into an intellectual cul de sac and, with its private language, rendered them unable to communicate beyond their tribe. Postcolonialism, for its part, has, at its worst, reduced history to a simplistic morality play where forces of evil (i.e. imperial powers) subdue and victimise weak innocents (i.e. 'indigenous' peoples).

It has not been a part of the historical research tradition for the past 150 or more years to try to see connections throughout human history, or even to make comparisons across time and/or place. There has not been any sustained quest for any possible 'laws' of history as there have in many of the sciences. Historians have not generally been concerned to explain how 'today' has resulted from 5,000, or 50,000 or 5 million years of events. Had Darwin been a historian he would have described the different shapes of finches' beaks on the Galapagos Islands and left it at that. But he had a much bigger agenda, and asked why the differences had come about, and so got an inkling of the idea of natural selection as the driver of biological evolution. Similarly, geologists Hutton and Lyell, had they been historians, might have given a highly detailed account of the Earth's surface,<sup>21</sup>

and then gone on to study something else. But their agenda, like Darwin's, was to explain how the present in this case the Earth's surface came into being, and so they worked out basic laws of geology. How do historians explain human cultural evolution from palaeolithic, to neolithic, to modern industrial? Barely at all, which is why I find Diamond's book so exciting, because it offers an explanation for the modern human condition in terms of the history of humans as a species.

Historians who do not write for their peers are sometimes regarded with suspicion. Any publishing commercial success as a result of writing for a more general audience can intensify the jealousy and/or scorn. A classic case is Canada's Pierre Berton, who has written some runaway best sellers including my favourite, Klondike yet seems little regarded as a historian in Canada's academe.

Of course you can probably name New Zealand historians who have written popular and influential works of history who prove me wrong: Keith Sinclair, Bill Oliver, James Belich, Michael King. I just wish there were more of them, for they are needed.

As a society we have never been more informed, or more ignorant. When I wrote Quest for Origins part of my aim was to dispel some of the more bizarre ideas about ancient advanced societies in New Zealand and Pacific (and indeed world) prehistory. Such fantasies are not just silly, they are pernicious. Anti-intellectualism is on the rise with the wave of 'New Age' ideas. What was once called superstition and irrationality and the fantastic is all ostensibly being normalised. I have tried to do my bit to dispel any nonsense about New Zealand being first settled by Celts, Egyptians or aliens. The real story of Pacific peoples journeying and settling the islands should be more than enough to satisfy anyone's cravings for a fascinating and 'romantic' past.

Historians may interpret and dispute the past, but they seldom invent it from whole cloth. Their works particularly the popular works can provide a necessary reality check, particularly at a time when so many of today's debates, be they about GE or the Treaty of Waitangi, are characterised by passion and misinformation.

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# Learning to love the dandelions

***Dandelion: The leaves are shiny and hairless, each margin cut into great jagged teeth, either upright or pointing somewhat backwards, and these teeth are themselves cut here and there into lesser teeth. This somewhat fanciful resemblance to the canine teeth of a lion gives the plant its most familiar name of dandelion, a corruption of the French dent de lion, an equivalent being its former Latin name dens leonis.***

When it came to plants, Dame Ella Campbell was a champion of some of those least likely to find popular regard. Once there was a would-be producer of cut flowers who was plagued by dandelions competing with his tulips and daffodils. In desperation, he consulted the country's leading horticultural expert. I recommend that you learn to love dandelions, said Ella.

Dame Ella Orr Campbell was raised in Dunedin. There, together with four siblings, she ranged the lush garden tended by her mother, a pharmacist with an interest in botany and a love of orchids. But Ella remembered her fascination with plants small, wild and uncultivated as having more likely begun during daybreak excursions with her father, a builder. In the morning chill, as her father collected the lamps left out to light his sites, Ella would forage in the nearby bush or crouch beside the verge, examining the tiniest weeds; making discoveries.

It was at her father's wish that Ella spent a year studying to be a teacher, but this was never going to be enough for her. No sooner had she finished than she enrolled for a BA, and in 1934 she graduated with an MA in botany, on the life history and development of native water fern. She was briefly a botany lecturer at Victoria University, then headed back to Otago University where she taught over an eight-year period. It was while on her way from Otago to the Coromandel to study frogs that she paid a visit to Massey and was promptly offered a position.

Ella was appointed a lecturer at Massey Agricultural College in 1945, where she would at first teach plant morphology and anatomy as part of a developing subject: horticulture.

***Bryophytes: Non-flowering plants that live in damp places and that reproduce by means of spores. Bryophytes can be divided into three classes: the Musci (mosses), Hepaticae (liverworts) and Anthocerotae (hornworts). They are generally small and low growing.***

In 2003, 57 years after her arrival at Massey, Ella remembered such difficulties as there were with amusement: They thought they had me on two counts, the agriculture people. A new subject, horticulture and what was that supposed to be about and what use was it? And of course I was the only woman on the staff and was the only woman for many years.

It's true, yes, people sometimes thought I was the matron. But I wasn't really around the place long enough to be mistaken for the matron. I was there for the lectures and the students, of course, but we would get out in the fields and to the bogs, you know?

During her years as a lecturer at Massey, Ella's horizons grew as her interests narrowed. From early wanderings in the residual bush of the Otago Peninsula she had been captured by bryophytes, mosses and liverworts in particular. This focus remained throughout her career and increasingly dominated her research, with just one exotic addition to her academic nursery: the orchids her mother had loved.

***Bog: A nutrient-poor, peat-accumulating wetland in which peat mosses, ericaceous shrubs, and sedges play a prominent role. High water levels and low oxygen and nutrient levels mean decomposition of litter occurs only slowly.***

Ella had a longstanding interest in peat bogs, those places where layer-on-layer of partly decomposed plant remains have accumulated in acid, waterlogged soils over thousands of years. She came to know the peat bogs of the Waikato intimately, travelled to many others around New Zealand, and was regularly consulted by regional councils on peatland management issues.

These days bogs are acknowledged as ecologically interesting and important, but for most of Ella's time bogs were an unusual speciality.



There's a resurgence in interest now. But apart from Ella, there has been very little recent research, says Jill Rapson, curator of the Massey herbarium named for Ella Campbell. Why the resurgence? Well on the one hand some people want to use bogs to mine peat, while others see them as a way of capturing and sequestering carbon dioxide and fulfilling our obligations under the Kyoto protocol. Bogs are also useful for carbon dating.

Dame Ella was an expert on the sedge-like, restiad bog plants which replace the Sphagnum found in northern hemisphere mires. It was Dame Ella who first noted, among her many other discoveries, the growing habits of wire rush, a restiad found only in some southern hemisphere bogs. Their roots grow upwards! says Jill, who, with student Tarnia Hodges, is researching the ability of such roots to scavenge the few nutrients coming into a bog via rainfall. It's the only bog plant that does that.

***Microtome: A sharp-bladed instrument used for sectioning of wax-embedded biological material for microscopic analysis.***

Her beloved hornworts led Dame Ella to travel widely. In her early years at Massey she travelled to Cambridge University, to the University of Cincinnati and to the Douglas Lake Biological Station of the University of Michigan. As a world expert on liverworts and, later, an internationally accredited specimen orchid judge, she became familiar with most parts of Asia and Europe. At the 300th anniversary of the Berlin Botanical Gardens, she delivered her speech in German, as a member of the Goethe Institute. Wherever she went she kept notes on the people she met, notes she would file and pass on to travelling students and graduates.

Kindnesses like these sometimes surprised people. She was a formidable and memorable teacher and would not suffer fools gladly, said former colleague Professor David Fountain at her funeral. I'm sure the students of the 40s, 50s, 60s and 70s will remember her sharp wit and the even more razor sharp glance which accompanied any rebuke she gave and she was not hesitant in giving these.

Ella Campbell 'retired' from Massey in 1976 but continued her research, ensconced in the Ecology Building on the Palmerston North campus, for 20 more years. This was when she published the bulk of her 100 papers. Her list of publications, rather than being 'as long as your arm', was put at two arms and a half by University orator Robert Neale.

Fountain remembers her as a constant presence: Her door open from early in the morning and she dissecting samples in her lab, or her room where microscopes and stains were side by side with open books, manuscripts in preparation or review. She worked quietly, independently some thought secretly.

To the distaste of some, she maintained a large collection of living mosses and liverworts. The collection was tatty at first sight housed in grey metal bookcases each specimen growing in the low light of shelving tucked under the eaves of an inner courtyard of the building. Long sleeves of plastic bags rattled in the wind for she had devised a bag-based means of providing the moistness required for these plants. They survived for years, decades, despite occasional threats of removal when important personages toured the building, for they were an eyesore.

During this time Ella was admired by many but to others she appeared incessantly focused on her bryophytes and blinkered to many of the world's problems. She never to my knowledge possessed a TV and rarely listened to the radio, says Fountain. And she could argue tenaciously along sometimes outrageously un-PC lines on issues of social or political debate.

She was famed for her skill in making up microscope slides (a now-vanished art) and she was a master of the microtome, a manual specimen slicer now replaced by the automated ultratome. Ella's was a handsome gadget, rather like an instrument of torture in miniature whose tiny victims were specimens embedded in wax, to be sliced into fine ribbons and laid out for inspection on microscope slides.

She was envied for her international collection of books, acquired by all manner of means and guarded fiercely. Fountain remembers a book being 'borrowed' from the shelves of her office when she was away. Her powers of observation, honed on those tiny plants, quickly revealed the gap in the shelves on her return and she was heard to utter the words: 'He's a blackguard!'. The book was returned. The borrower, Dr Al Rowland, in turn achieved the reputation of the best microscopist on campus.

Ella Campbell received many honours, including the Massey Medal in 1992. She was made a Dame Companion of the New Zealand Order of Merit in 1997. She never married, and valued her family and friendships. One young friend, Joanne Holdaway, pleased her greatly by writing a biography, augmented by conversations at her Palmerston North rest home where Joanne took a temporary job to be near her.



Much of Ella's collection of slides, books, microscopy materials, dried plants and instruments is already at the University's herbarium. The rest now sits in ceiling-high stacks of boxes in a storeroom at the Ecology Building, waiting for sorting and classification. It won't be easy. Dame Ella could be cavalier about labelling. Why did she need to bother labelling them at all? says Jill Rapson. She knew very well what they were.

There's also a massive, rare three-volume set of books on liverwort taxonomy, all in German. Inside, a note from the University Library, dated 1988, allows Ella Campbell long term loan, until the books are needed. The Library never reclaimed the set, losing track of the loan, but Ella did, and returned them on packing up her office in 2001. Subsequently the books were donated to the herbarium, the library perhaps recognising that it may be some time before they will again have to meet the needs of an obsessive, German-literate, liverwort lover.



*Professor Brian Springett, Vice-Chancellor Judith Kinnear, Dame Ella Campbell and Associate Professor Ed Minot. In the background are Dame Ella's nephew, Gavin Adlam, and niece, Rosalie Adlam, flanked by Dr Alistair Robertson and Professor Russ Tillman.*

## The Dame Ella Campbell Herbarium



Although officially named in April 2003, the Dame Ella Campbell Herbarium has existed informally since 1945, when a collection was instituted by the then department of Agricultural Botany. Those agricultural beginnings are evidenced today in extensive collections of naturalised weeds and grasses, but the herbarium's greatest strength and the reason why it is one of 13 internationally recognised herbaria in New Zealand is its collection of lower plants. (The herbarium was officially designated MPN 1977 under the curatorship of Dr Margot Forde.) Of the 30,000 specimens in the collection, half are lower plants, a most unusual bias according to the herbarium's current curator, Dr Jill Rapson.



14,290 specimens of bryophytes were donated to Massey by Amy Hodgson in 1972. Donations and exchanges also explain the fact that some of the herbarium's specimens predate it. The oldest collection, from 1889, is an award-winning folio of ferns compiled by Mr E Maxwell for the Melbourne Exhibition, the donation arranged by a former vice-chancellor, Dr JC Andrew. The flora of the volcanic plateau and the lower North Island is richly represented.

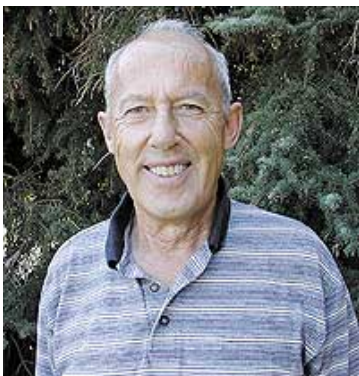
The herbarium lends out bryophytes to researchers worldwide. In fact we frequently have to fight to get our specimens back again, says Dr Rapson.



Within Massey, the collection is used by students and postgraduates for identifying specimens they have gathered in the field or when looking at how to go about putting together their own collections: pressing and drying plants, affixing them to cards, and cataloguing the species and location. Some of these collections are eventually donated to the herbarium. Making up a collection is a process that has changed little over the centuries, though the catalogues are now being transferred to computer databases, a mammoth task initiated by former curator Dr Heather Outred. The Dame Ella Campbell Herbarium is now extending its collection's pollen databases and has begun collecting information about the DNA sequences of its specimens.

Fittingly, on the day MASSEY spoke to her, Dr Rapson had just returned from an annual gathering of Australasian bryologists, this year held in the Hunua Ranges . Over several days, 30 or 40 bryologists wandered the forest, finding specimens for identification. You collect and then you stare down microscopes, and if you can't figure out what you've got, you can just ask the world expert alongside you, explains Dr Rapson.

As was fondly remembered at the Hunua gathering, the first of these events was held in the Pohangina Valley in 1969. The organiser? Ella Campbell.



**"Because she was a single person, Ella had rather fixed ideas about some things. But I always felt that she had that Scottish sense of 'if you are going to do it, do it properly!' and this would have annoyed those who were on their own power trips.**

**She used to coach the women's hockey team and as she got older clearly had a great affection for Massey and its graduates and wanted the best for the place that she had worked at for so many years.**

**I kept up a correspondence at Christmas time every year and she visited me once at Saskatoon when she was on a North American trip. On my few visits back to New Zealand, I always made a point of visiting her.**

**You can see that I had a high regard for her. I don't think many people at Massey in those earlier days realised that she had such a high reputation internationally for her scientific work. One thing that always impressed me was that she was one of the few international taxonomists who could write the official naming description in Latin a testimony to her schooling in Dunedin.**

**Graham Simpson completed his Master's in Agricultural Science in 1956 with Ella Campbell's help. For more about Graham, turn to page 37 .**

Date: 05/11/2003

Type: Features

Categories: Alumni; Massey Magazine

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## Meet the teacher

**Educator - Jonathan Hensman**  
**Bachelor of Arts with Honours**  
**Postgraduate Diploma in Education**

*After eight years as Headmaster at Wanganui Collegiate, Jonathan Hensman is moving on to become headmaster of Brisbane's Anglican Church Grammar School, an independent boys' school. On the eve of his departure he speaks with MASSEY about private schools, the difference between single-sex and co-ed, and what's happening in New Zealand education.*

In a shirt that makes him look like a New York stockbroker, sitting upright in his leather armchair in his spacious office at Wanganui Collegiate, Jonathan Hensman looks every inch the private school boy he isn't.

Educated at Karamu High School in Hastings, a state co-ed, Hensmen spent many years teaching in the state system before making the leap from decile 2, co-ed Mt Albert Grammar School, where he had spent four years as Deputy Head, to exclusive, decile 10 Wanganui Collegiate in 1995. Before the move to Wanganui he had reservations about the advantages of a private school education. He's now well and truly sold on it.

The purpose of education is not only the development of the mind, but the development of character and this is what independent schools do extremely well, says Hensman.

Independent schools address the whole person in a way most state schools cannot, he continues. A big problem for state schools is that they just can't provide a large number of sports teams, debating teams, drama, choir, music and so on because a lot of the staff no longer want to participate beyond 3.30 in the afternoon.

What of the benefits of having your children mix with others whose circumstances are different? When Hensman moved his own children from Mt Albert Grammar to Collegiate he worried about the narrowing of experience that might come with moving from a large, inner-city, cosmopolitan state school to what was perceived to be a wealthy and mono-cultural school. That bothered me, given my state roots. But now I know what I would choose for my children within a flicker of a second.

I think the reality is that when our young people leave school they slot themselves into their own socio-economic grouping anyway by virtue of the jobs they take up. All we're doing here is funnelling them into what people would funnel into anyway.

The only time he has seen the state school system challenging the advantages of independent schools was after the introduction of Tomorrow's Schools in 1987, which allowed good state schools to establish a degree of autonomy. For a few years the gap closed between the education outcomes of state and independent schools, he says. But I believe that gap is now as wide as it's been for a long time.

Indirectly it may have been Tomorrow's Schools that turned Collegiate co-ed. In the late 1980s Collegiate's roll fell: a state of affairs Hensman attributes to newly competitive state schools. Collegiate, which had been a boys-only school, responded by admitting senior girls. In 1999 the school started admitting girls from Form 3, and it is now co-ed across all year groups, with girls making up 38 percent of the total roll.

Are the pupils better off for the school having become co-ed? For parents who are wondering whether a single-sex or co-ed schools is the right choice for their child, Hensman is non-prescriptive. The choice has to fit the

individual child, their needs and their family background. However Hensman, who has spent equal time teaching in single-sex and co-ed schools, does make a spirited case for boys' schools.

He suspects many parents do not understand how different the cultures in boys and co-ed schools are. Young people are now surrounded by a world that has a values system that is very individual, so the concept of collectivity and community is less pronounced than it was. That's why some young men are better in boys' schools, where there's more collectivity and esprit de corps generally through sport. They are advantaged by experiencing that common purpose.

I have seen higher behavioural expectations and norms of behaviour in single-sex environments than in co-ed environments.

If Wanganui Collegiate wins an exemption from his observation as it does then this is because it has maintained its boys' school traditions.

Whether the school is state or private, single-sex or co-ed, Hensman believes there are three factors that determine its success.

One is the quality of the Head and his or her value system. A second and not one state schools have much say in is the socio-economic environment the children inhabit outside of school. If kids aren't getting support from home, they face an uphill battle. Parents are base one, and our life's circumstances put us on that base.

In high decile schools the children share similar backgrounds and similar expectations, one them being university.

The third factor is having quality teaching staff who are passionate about kids. Not passionate about their subject, he stresses, but passionate about kids. Passionate enough to give the job the time it needs to be done well.

New Zealand needs to attract more people into teaching. The simple solution, he says, would be to go back to the studentship system. But the Government won't buy into that.

We also need to pay good teachers more. For the 50 percent or so of teachers who don't bother to work after school and weekends to take sports teams or drama productions, the present salary is adequate. But those who do get out after school and get involved should be paid more, he says.

It would be so easy to do and is a small price to pay for what you get out of it. It would reduce juvenile crime and improve adolescent behaviour across our communities.

## Hensman on the NCEA

Hensman likes the concept of ongoing assessment, while still assessing at least 50 percent of each subject by exam (except practical subjects).

He also looks forward to NZQA data telling schools a lot more about how well its students and teachers are doing. Rather than having one mark for a subject like maths, under the NCEA the subject is broken down into six or seven achievement standards, so areas of learning within a subject can be analysed. We're told a lot more and that's a very good thing, says Hensman, though he goes on to say that the same thing could be achieved using marks.

What he most dislikes about the NCEA is the marking regime. It is too formulaic and it lacks finer definition. There are only three delineations for a pass, whereas in the old days there were 50 from 51 to 100 percent.

He is also concerned about the distinction between the NCEA's unit standards and achievement standards, both of which give students credits. When I read in the paper the other day that Cambridge High School was giving students unit standards for picking up litter and that can go on their record of learning, I couldn't believe it.

You really do have to sit up and listen to the critics of NCEA who are saying that some of the unit standards are so vocational in nature that it's almost worthy of having a different system for them.

Those who are enthusiastic about NCEA love it because it's an integrated package which can accommodate all learners, he says. But in some ways the unit standard system is a dumbing down because you can get it for hairdressing, playing with engines, maybe picking up litter or putting up a fence.

There are two arms of learning: vocational and academic. But with NCEA the credits for each are being recorded on the same statement of performance. I think it would have been sensible to be honest with ourselves and accepted there is a hierarchy of learning and the path you take should reflect your ability level. That's life, so why be ashamed of that?

It's not right for a school to say we achieved all these credits and on the league tables we look fantastic, when it's largely driven through unit standards rather than achievement standards. That's where I have a real problem with NCEA.

*Jonathan Hensman began his teaching career at Hastings Boys' High School, leaving at the end of 1986 as head of the department of geography. After a year at Tamatea High School in Napier as head of the department of geography, history and social studies, Hensman moved in 1988 to what he describes as a very middle management position at Hillcrest High School in Hamilton as head of the social science faculty. Three years later he was appointed Deputy Head at Auckland's Mt Albert Grammar School.*

*Outside the classroom, Hensman has coached a variety of sports teams, has been chief examiner for School Certificate geography and, along with his brother, has written most of the senior school geography text books in use today. In 1994, in his capacity as Deputy Headmaster at Mt Albert Grammar, he was awarded a Woolf Fisher Scholarship for outstanding service to education.*

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# States of the Nation - Families

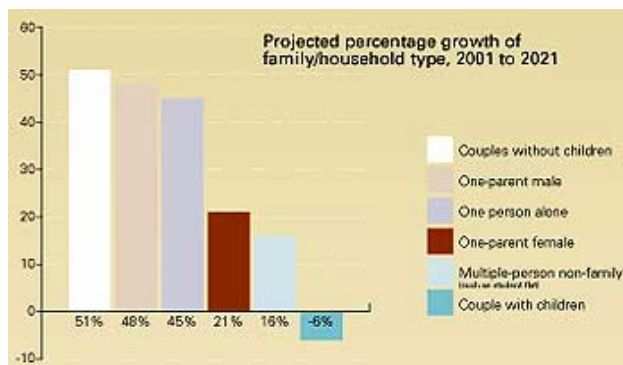
*In the first of an ongoing series, MASSEY looks at some of the ways New Zealand is changing.*

## Family business

The projected 16 percent growth in the New Zealand population between 2001 and 2021 will be outstripped by a 22 percent growth in the number of families: from 1.05 million to 1.28 million.

The discrepancy comes about because families are becoming smaller. For the moment, the most common New Zealand family type is 'couples with children'. In 2021 it will be 'couples without children'.

Between 2001 and 2021 the number of couples without children is projected to rise 51 percent from 407,000 to 614,000. Some will be empty nesters, their children having left home; others will be couples who have delayed having children (many now choose to have children in their thirties) or have chosen to remain childless.



Of those families with children, many more will be single-parent. Factors such as separations, divorces and more children born outside of couple relationships will lead to single-parent families increasing from 198,000 in 2001 to 251,000 in 2021, while two-parent families are expected to decline from 446,000 to 418,000 over the same period.

These figures, however, become less dramatic when you subtract those where the children are adult and - in one sense independent. The number of one-parent families with dependent children (under 18 and not in full time employment) is expected to increase from 153,000 to 196,000.

Of the three family types defined by Statistics New Zealand, one-parent families with children have the lowest median income, and while both couples and couples with children have seen their incomes increase significantly over the 1990s, that of one-parent families has remained relatively static.

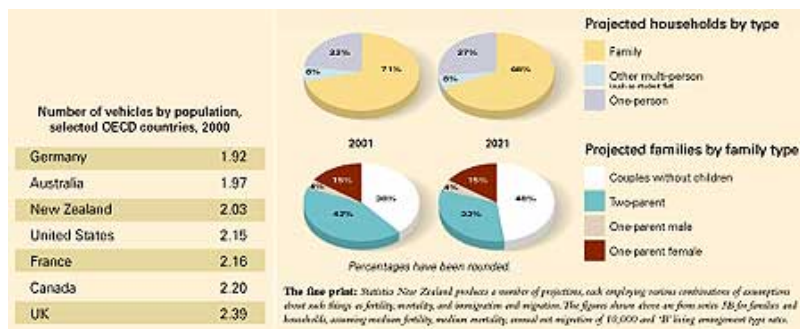
The growth in the number of families is, in turn, trumped by the projected growth in the number of households, which is projected to increase by 26 percent, from 1.44 million in 2001 to 1.82 million in 2002.

Here the number of people living alone (a category that falls outside of Statistics NZ's definition of family but within the definition of households) comes into play. Between 2001 and 2021 the number of people living alone is projected to increase 45 percent: from 333,000 to 482,000. As with the growth in the number of couples living without children, the general ageing of the population has much to do with this increase in 'singletons'.

Contributor: David Thomson

## But what is a family anyway?

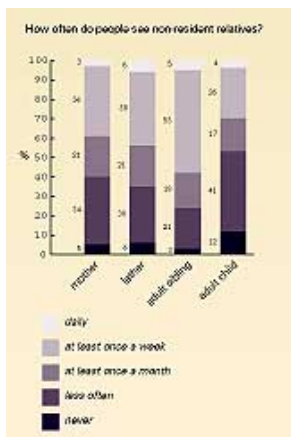
Statistics New Zealand uses a largely household-based definition of family, and so household-based families are what we see: couples who live together, who do or don't have children; sole parents; and (from the household measures), people living alone. What we fail to see is any expression of today's more fluid family relationships. In the Statistics measures, a traditional and a blended family such as you might find where two people living together have brought with them children they have had from earlier relationships look just the same. The figures don't identify those cases where a family member may live in more than one household, as when a child is shared between parents and households. They don't show the extended family arrangements traditional within Maoridom and some other cultures. (And, in other instances, they give only a vague idea of the financial and childrearing ties that exist outside the bounds of the household, which means that income distribution analyses can be misleading.)



For these and other reasons, says Stuart Birks of the Centre for Public Policy Evaluation, policy makers need to be wary of relying too heavily on the Statistics projections. Professor Robyn Munford agrees that we don't know enough about families, and that simple assumptions are often misleading. For example, circumstances in sole-parent households can vary markedly. There are large differences between a household with a young, never-married beneficiary parent and one with a divorced, older, professional working parent. Munford's School of Sociology, Social Policy and Social Work is looking at the phenomenon of shared parenting and how it is managed, not just across two households, but sometimes three or four.

Contributors: Stuart Birks, Robyn Munford

## Calling home



Although the shift away from collective family and kin relationships that began over a century ago continues, families remain at the centre of New Zealanders' values.

A survey of social networks conducted by Massey in 2001 as part of the International Social Survey Programme shows that most people are in regular physical contact with their close relatives. Almost 40 percent of people with a mother living close by will see her once a week and another 20 percent will see her once a month. The percentage of people who maintain regular contact with their fathers is only a little lower.

For those with relatives not so close by, phone calls, faxes, letters and increasingly emails are heavily used. Sixty percent of people with a mother living elsewhere are in contact with her once a week. The similar figure for fathers is 50 percent; for siblings, 40 percent.

Three-quarters of New Zealanders believe that they should take care of themselves and their family first before taking care of other people.

New Zealanders also generally have good networks of friends (55 percent of us report having eight or more close friends), and some 60 percent of us belong to or will have participated in a sports group, hobby or leisure group in the last six months.

Ever since the rise of the welfare state, there has been a tension between the extent to which individuals, families and communities are responsible for their own destinies and the extent to which the state should provide services to help individuals cope with their lives.

This tension will become more acute as the number of single parents and older people living alone to name two groups rises.

Contributor: Professor Philip Gendall



Type: Features

Categories: Alumni; Massey Magazine

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# States of the Nation

*In the first of an ongoing series, MASSEY looks at some of the ways New Zealand is changing.*

## A changing mix

No matter how things are done, things never seem to work quite the way the policy makers would like them to. In the past few decades, New Zealand has alternated between having too few immigrants to having, in the popular perception, too many. The latest changes in immigration policy, which will restrict some categories of migrants to those who have a firm job offer, will certainly change the ethnic mix of new migrants, but, beyond that, speculation is risky.

But whatever happens, New Zealand's migration policy is not going to halt the considerable changes already under way. New Zealand already has an established Pacific Island population, with most of the first-generation migrants arriving during the 1970s and 1980s. It already has an established Asian population, with many of the first-generation migrants arriving during the 1990s. (This influx followed the 1987 removal of the traditional source country preference and the 1991 introduction of a points system, which emphasised attributes that were deemed to be desirable for New Zealand's economic and social development.) These populations are predicted to grow rapidly as immigrants have children or sponsor the migration of other family members into New Zealand.

Asians will soon constitute 10 percent of New Zealand's population. By 2021, the projected number of Asian New Zealanders (604,000) will outnumber the current population of Canterbury.

However, it should be remembered that the designation 'Asian' is anything but homogeneous. It encompasses widely differing language, cultural and regional groups, from north-east Asia (Korea, Taiwan), to south-east (Singapore, Malaysia, Vietnam), to the Indian subcontinent.

The Maori population will also increase, though not so dramatically. In a recent television programme, activist Tama Iti pointed to his own face and said this will be the face of the future. He is partly right. Maori, 15 percent of the population, will grow to be 22 percent by 2051. Pacific peoples, who were 6 percent, will constitute 13 percent. Polynesians, both Maori and Pacific, will make up one-third of all New Zealanders. You can see this expressed in our popular culture: MaiFM is the most popular radio station in Auckland, bands such as Nesian Mystik are on the rise, Polynesians are increasingly prominent in our national sports teams.

The European-Pakeha population will remain static but decline markedly as a percentage of population.

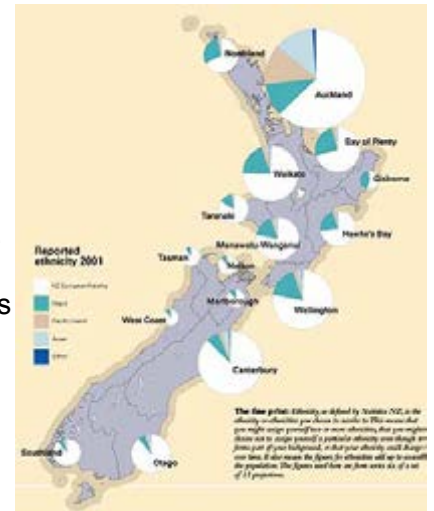
New Zealand's regions already have very different ethnic mixes: in Auckland, more than one in ten people identify themselves as Asian; in Southland, fewer than one in one hundred.

Of the many statistical correlations between ethnicity and personal circumstance, one of the most troubling is educational performance, a key to social mobility and New Zealand's performance. In 2002 more than one in three Maori school leavers failed to get qualifications, which include the National Certificate in Educational Achievement Level 1, Sixth Form Certificate, Bursary or Higher School Certificate. For Pacific Island leavers it was about one in four; for European-Pakeha one in seven, and for Asians about one in ten.

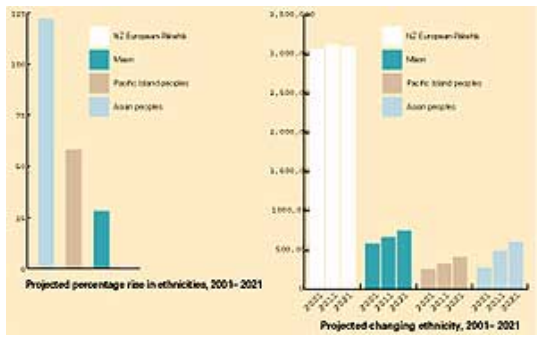
If globalism has meant new immigrants in New Zealand, it has also meant more New Zealanders living in other countries: 800,000 of them. Around half live in Australia (in the 2001 census in Australia, 355,765 people gave New Zealand as their place of birth), but there are significant communities in the UK, USA and Europe. Some go for brief periods of OE; others live there permanently. The diaspora of young and qualified New Zealanders many of whom will no doubt return was particularly notable during the 80s and 90s. So while New Zealand remains a destination for immigrants, it is also a country of emigration.

New Zealand has innovated in terms of reversing the negative impacts of colonisation on an indigenous people. Bicultural social services and Treaty settlement processes attract international attention. Unlike Canada and Australia, the country has yet to develop a multiculturalism which acknowledges immigrants and ethnic groups, as well as Maori as tangata whenua.

Click image to enlarge



## Having an identity crisis



There has been much debate about the statistical treatment of ethnicity. The statistics used here employ total responses. This means that if at the last census you ticked both Maori and European as your ethnicities then you appear in both the Maori and European-Pakeha statistics. Hence the number of responses exceeds the population. In the 2001 census 9 percent of those who identified themselves as having European-Pakeha ethnicity also identified with other ethnicities. Forty-four percent of Maori identified themselves with other ethnicities, as did 29 percent of Pacific people, and 10 percent of Asian people. This 'double voting' has its problems. Stuart Birks gives an example:

Let us say that there are two ethnic groups, the air people and the water people. In our population of 12 people there are two air people, two people who have both air people and water people ancestry, and eight water people. So we have 12 people, but we have 14 responses. This gives us a ratio of four air people responses to the fourteen responses received, so it looks like about 28 percent of the population are air people.

If, on the other hand, we say that the person who has air and water ancestry has half a response that is air and a half a response that is water, then we will have 12 responses for our 12 people. Of the total responses three will be air, or 25 percent. The difference between 25 and 28 percent matters when you are making policy decisions.

This phenomenon comes into play when, for example, calculating the Maori population, which appears larger under the 'double vote' system.

Another debated matter is the designation 'European', which is now being used by Statistics NZ in place of NZ European-Pakeha. 'European' is not a true ethnicity, confusing, as it does, a local ethnicity, Pakeha, with the ethnicity of those immigrants who have arrived from Europe. It also collapses important cultural differences between Pakeha and various European groups.

Contributors: Stuart Birks, Professor Paul Spoonley

Date: 05/11/2003

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Categories: Alumni; Massey Magazine



## Staying Focused

**Photojournalist - Documentary Maker**  
**Bryn Evans - Certificate in Professional Photography**

*Six months out from graduating Bryn Evans knew he had made the right career choice: a warrant was out for his arrest and he was being hunted down by the army. He was living in caves, dining on lizards. Times were good. This was just the career break he needed.*

**f1.8** But today, here in Wellington six years on, Bryn Evans, a man who as a photojournalist is unperturbed by bullets flying overhead, is looking strangely nervous about being put to question.



He sits with his shoulders slightly hunched, his fists wedged between his knees, but when his interest catches he unfolds his arms sweeping into gestures, his legs extending and crossing and he becomes a large man, someone with heft, a useful person to have about if things got dicey. In his military-green top and a pair of jeans he looks almost field-ready. The only jarring touch is the slightly spiked haircut and the abbreviated designer sideburns.

If I have expected some Hemingwayish swagger from Bryn then I am to be disappointed. He is anxious almost disturbingly so not to present himself as more than he is. His speech is uninflected and full of hesitations as he grasps at the right words.

He is a bit wired, he begins by admitting. Twenty-four hours ago he was on a Hercules back from Bougainville. This was his second trip. On his first, back in 1996, the conflict was continuing: the Burnham Peace talks that would lead to the arrival of a peacekeeping force were still a year away. This time he has been there to see the peacekeeping force depart after a successful intervention.

In 1996 Bryn lived as a fugitive. This time the most traumatic event has been the loss of his cameras, stolen from him within hours of his arrival: his photos this trip were snapped on a hurriedly purchased collection of disposable plastic cameras.

Bougainville before the peace; Bryn the graduate on the make. Bougainville making its way as the peacekeepers depart; Bryn the established photojournalist and soon-to-be father.

These sets of circumstances are the parentheses to six footloose years during which Bryn has travelled from assignment to assignment, more than a few of them being conflicts or disasters.



The Maha Kumbh Mela Festival, the largest gathering of people in the history of mankind. India, 2001

**f2.8** What decides someone on a career photographing conflicts and disasters in faraway places? The storyteller in Bryn identifies several plot points. The first was his childhood experiences in the Pacific. Although raised in Opotiki, Bryn spent a number of interludes in the Solomon Islands, where his father worked with VSA. The visits awakened him to an interest in photography and the wider world. He became a young man hooked into amateur travel photography. He even had an article published in the Solomon Island airlines in-flight magazine nothing too flash, he says about his father's work with UNESCO setting up two world heritage parks.

The second was an excursion into besieged Sarajevo. After leaving school at 16 Bryn had drifted for a while, begun and abandoned an apprenticeship to become a motorcycle mechanic, and then headed for Europe, arriving in London when he was 19. In the early 1990s at age 22 he was working in Salzburg. Yugoslavia was breaking up and refugees were flooding across the border into Austria. A friend who was involved in aid work invited Bryn to visit Sarajevo. Though he was there for just 48 hours the trip gave him what he terms a glimpse of the human condition as well as a taste of the excitements of war. When I came back I started watching CNN and BBC and all these things became real to me. That was the moment when I realised I wanted to study photography.



(Left) Indonesian trans-migrants. Timika, Freeport Mine, West Papua  
(Right) West Papuan OPM freedom fighters. West Papua

**f4** Bryn returned to New Zealand and enrolled in the one-year Professional Photographic Certificate offered by the Wellington School of Design. At 25 he was a mature student, but not particularly old for a course where most students were in their mid-to-late twenties, says photography lecturer Tony Whincup. Many of them were stepping out of quite well-paid jobs and were looking for something more fulfilling. They were driven people who were quite clear about what they wanted: to make life in photography.

Though at first a little resistant to the notion that other people should pass judgement on creative work and to the idea of being driven by marks, Bryn was a capable student. At the end of the Certificate six students would be offered an Agfa scholarship to undertake a further year, during which they would undertake a personal photographic project and produce a portfolio. Bryn was one.

Getting the Agfa scholarship instilled in me a sense of being special, says Bryn. You need that. It's a very competitive industry. You are self-employed and you have to get up every morning and push yourself.

He graduated in 1996, and, as many a graduate must, walked down Cuba Street and thought what the hell do I now? He knew he would have to leave New Zealand. For an aspiring professional photographer whose interest was international stories, there were few potential New Zealand employers.

**f5.6** From his boyhood travels Bryn had a good knowledge of the Solomons. Now he formed a plan to return there and to have himself smuggled into war-racked Bougainville. For four months he washed dishes getting the money to get up to Bougainville. He found a contact at Time magazine. Only one other journalist had made it in to Bougainville with the BRA (Bougainville Revolutionary Army). If Bryn managed to bring back photos, would Time be interested in looking at them?

You know damn well they are going to say, come back with whatever you have. And then? You blag yourself a bit, and then you say, hey, I am working with Time. You need that credibility. No one needs to know you've been washing dishes. Bougainville was under blockade by PNG. Bryn went to Honiara and was eventually smuggled up through the Solomons by small boat.

It was a defining experience. I was introduced to warfare and the victims of warfare and the social consequences. I was hunted down. They had a warrant out for my arrest, a price on my head. I stayed in caves for the first two weeks I was there and met some pretty amazing people.

From Bougainville, the now as-published-in-Time photographer headed to the UK. Invited to go to Kosovo, he chose instead to return to the southern hemisphere to go into Timor with some of the first ground troops. Then came an event in Bryn's own territory, the Solomons coup.

Most of the mainstream media were focusing on the Fiji coup, and the Solomons coup was going on, and that was much worse for loss of human life and hardship. I was really the only journalist there. I was on the front line of an enclave around Honiara where a lot of people got killed, and once again fighting was taking place that shouldn't have been.

From there Bryn spirited himself into the Indonesian territory of West Papua (formerly Irian Jaya), where another freedom struggle was going on. High in the oxygen-thin air of the Castenz mountains he illicitly visited Freeport, the world's largest copper mine: trucks that were several stories high, expatriates living inside enclosures, and, away from the mine, locals living a life not far removed from the stone age and allegations of torture and killings by the Indonesian military. He did stories about the mine, about the freedom fighters, about slave prostitution.

Then in 2001 I had the opportunity to go to the oldest and largest festival of mankind, the Hindu festival of Maha Kumbh Mela in Allahabad. It happens once every 140 years. They estimated 70 million people came to this one spot over a six-week period. It was the most incredible experience of life and the afterlife and everything we hold dear. An incredible visual feast. I hadn't been to India. It blew me away. I was there for five days and the Gujarat earthquake happened.

Bryn was the on the first flight in to Gujarat, where 35,000 people lay dead. So I went from the most auspicious celebration to the worst of tragedies. I spent five days in Gujarat, which was about as much as I could have taken.



(Left) 'The Farm'. Drenching sheep. East Cape, New Zealand, 2000.

(Right) Gujarat earthquake. A father waits for his son's body to emerge from the rubble. India, 2001.

**f8** The journalists and photographers who follow wars and disasters are a small, close-knit fraternity, says Bryn. You'll see same people in Gujarat that you see in Kosovo, he says, and suddenly there's an open bottle of whisky on the table. Sometimes people say photojournalists are just in it for the ego the bang-bang club scenario sometimes that may be true.

Bryn doesn't pretend that the lifestyle is not without its seductions. Any photo journalist who says I am doing this for mankind and I want to save the world is sort of lying. You have to be addicted to the game, because that is what gets you there, the element of danger, of adrenaline and addiction.

So how does Bryn react to danger? I tend to shut down and not think about it, he says. I love getting into those situations. I am very good at handling myself. It's this ability as much as any photographic ability that makes for a good photojournalist.

You have to get to these countries, you have to travel great distances, you have to live with your subjects in very severe conditions, eating and drinking as they do, says Bryn. In Bougainville Bryn ate lizards and lived in caves. In East Timor he scrounged ration packs from the army and lived in a room without a roof.

This is how he likes to live, adapting to exigencies. But does he have qualms about what he does? For the morally squeamish it is hard to forget that while the journalists and photographers are there by choice and are no more than a plane ticket away from the safety of home, those whose misery they view have no such choice.

But it is only because of those journalists and photographers that the world's troubles come to our attention. Bougainville, says Bryn, made him aware that there are people whose struggles are just and whose plight is unnoticed. It suddenly gave me a personal reason to keep doing what I do. Everyone deserves a voice.

It has been said that still photographs are somehow able to crystallise an emotional response in a way that film or television can't. What do you remember of 9/11? The television footage or that one encapsulating moment: the incongruous, horrifying beauty of flame blossoming from a skyscraper, the business woman surreally coated in concrete dust? Memory, like photography, works in freeze frame.

In Gujarat, Bryn could have done little as an individual. With his photographs the event became 'real' to the outside world. Published by aid agencies and in the international press, they helped elicit an outpouring of aid money.



Holi Festival. A celebration of colours. India, 2002

**f11** After Maha Kumbh Mela and Gujarat, Bryn found himself fascinated by the phantasmagoria of sights and stories offered up by the Indian subcontinent. At Bryn's instigation, Panos pictures sponsored him to live in Delhi as their correspondent. Meanwhile Bryn's work was being noticed by a documentary production company. After close on two years in India, Bryn left for New Zealand at their invitation for his début as a documentary maker.

Girls in the Ring followed two New Zealand women boxers and their odyssey to take part in the first Women's World Boxing championships in Scranton, Pennsylvania. Scranton? Yes, grins Bryn, everything you imagine is true: a lot of railway tracks and a lot of empty coal wagons.

He describes the documentary, which would screen as part of TV3's Inside New Zealand series, as a really lovely story about two heartland New Zealand girls.

I wanted to tell a very emotional personal story about these two women and their relationship with each other and with their coach, and their personal journey, and why are they boxing a sport still quite controversial for women. Boxing was the motif [that stood in] for many other things.

The shift from taking still photographs to documentary film-making was not such a leap, says Bryn as a photographer he had always become close to his subjects and he revelled in the new medium. It's oral as well as visual, you have ambient noises, you have music you can add; a whole combination of things you can put together. It just totally blows you away. And your audience is tenfold. Rather than an audience of 10,000 you are getting 120,000 or whatever. The other magical thing is that you can bring in other people you respect and are very good at what they do. A composer or an editor. Everyone brings their input. Your vision becomes organic.

On the other hand: You have ten times as many constraints. The organisation. You have a producer to answer to. You have a network to answer to. There is a lot more money involved. I work very independently. I do exactly what I want to do. And suddenly I can't. You are answerable to many other people, who at times say 'You can't do that bro'.

Back in India now a documentary maker as well as photographer he became taken with another story, that of the Taliban national cricket team, who were about to embark on their first international tour to Pakistan. Bryn

was chasing a commission to follow their journey from Afghanistan, when two jet planes crashed into the Twin Towers.



(Above) MEF patrol caught in an ambush. Solomon Islands, 2000  
(Below) MEF soldier waiting to head out on patrol. Solomon Islands, 2000



Six months after the US invasion of Afghanistan I got the opportunity to go back and make a documentary and at that point they had become the Afghanistan National Cricket team, says Bryn. Cricket, which had been picked up by the millions of Afghans who have been refugees in Pakistan, would stand as a motif for much else. It stood for Afghanistan's yearning for international recognition this whole thing about cricket being a game that civilised countries play. It was emblematic of a group of cricketers wanting to rebuild their country; they felt very strongly about cricket being something that could bring young boys from the battlefield and get them into an intellectual game, working together, before they got thrown into the classroom. It was even emblematic of Afghan politics. The national game is buzkashi [two teams on horseback compete to be first to pitch a dead calf across a goal line in games that can last up to a week] which has no rules, anything goes and that's Afghan politics. And suddenly you had a new interim government, and cricket, a game with rules.

Together with a camera team, Bryn accompanied his idealist cricketers as they travelled a destroyed Afghanistan in a Hiace van taking cricket to the schools. It was the most wonderful experience.

Actuarially speaking, covering wars and conflicts is not a good move. Robert Kapa, whose photos from Omaha beach were the basis of Spielberg's Saving Private Ryan, fell victim to a mine. Sean Flynn, the son of Eroll Flynn, disappeared in SE Asia, perhaps killed by the Khmer Rouge. Iraq has claimed the lives of a number of journalists, including Michael Kelly, an editor of the Atlantic Monthly.

Bryn met his partner, the woman with whom he is shortly to have his first child, after the death of a mutual friend, a journalist, who died in an Afghanistan car crash.

We met at the funeral, quite a traumatic experience, and something quite unexpected and beautiful came out of it, says Bryn.

Now as a responsible father-to-be, he needs to rethink how he lives his life.

I have to ask how do I fit in family life which I am totally and utterly into and still do something which isn't a job,



it's part of who I am. Fatherhood is a scary thing.

These last six years have been a privilege for me, a journey of experiences. I haven't regretted anything.

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